UGANDA PROTECTORATE.

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ANNUAL REPORT

OF

THE MEDICAL DEPARTMENT

FOR THE

Year ended 31st December, 1935.

Published by Command of His Excellency the Governor.

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MEDICAL DEPARTMENT,
HEADQUARTERS OFFICE,
ENTEBBE, UGANDA.
21ST MARCH, 1936.

Sir,

I have the honour to submit for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State, the Medical Report on the Health and Sanitary Conditions of the Uganda Protectorate for the year 1935, together with the Returns, etc., appended thereto.

I have the honour to be,
Sir,
Your obedient servant,

W. H. KAUNTZE,
Director of Medical Services.

THE HONOURABLE
THE CHIEF SECRETARY TO THE GOVERNMENT,
ENTEBBE.

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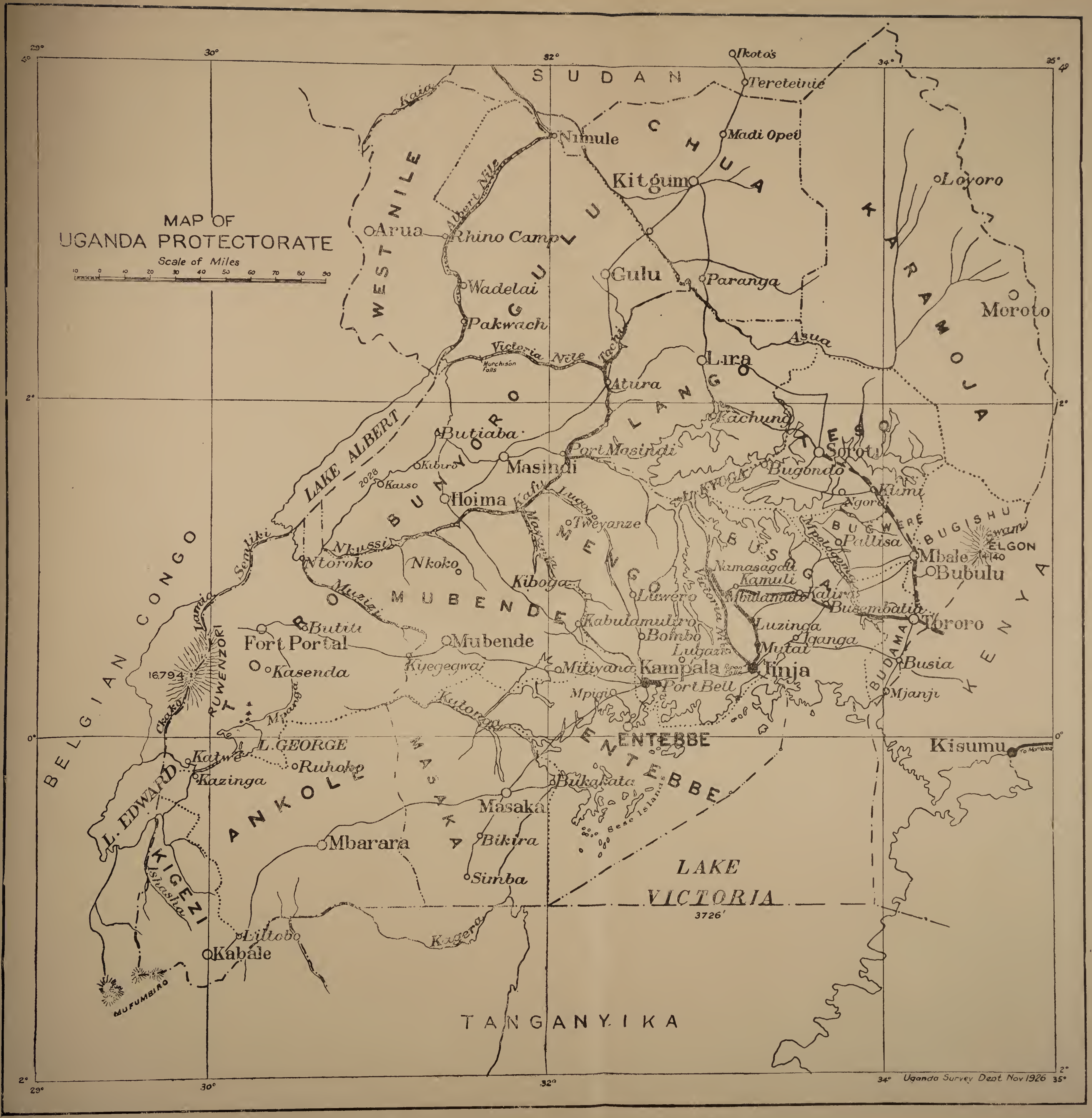


MAP OF
UGANDA PROTECTORATE

Scale of Miles

Uganda Survey Dept. Nov 1926

MEDICAL DEPARTMENT.

ANNUAL REPORT

For the Year ended 31st December, 1935.

SECTION I.—ADMINISTRATION.

General Remarks.

1. The main event of the year in the way of preventive medicine has been the passing of the Public Health Ordinance. This, which is largely an enabling Ordinance allowing of health measures being made by rule, was first issued in draft form in October, 1934. As a result of various representations certain alterations were made in the Ordinance and it was re-issued again in draft form in May, 1935, after which it passed through its various stages in Legislative Council with very little in the way of amendment, and finally became law in October, 1935. This Ordinance creates, for the first time in Uganda, Native Authorities charged with definite duties and powers to administer sanitary law amongst the native population. In Buganda, the Native Government is the Local Authority in regard to land in native occupation.

The Ordinance makes provision for a Central Advisory Board of Health consisting of a number of Government officials with a minimum of three non-officials. Provision is also made for the temporary appointment to the Board of representatives of special industries when rules affecting such industries are under consideration. The Board was established in November, 1935, and held one meeting before the end of the year when it considered the draft Regulations for the Central Board of Health, the draft Infectious Diseases Regulations, the draft Prevention of Importation of Disease Regulations, the draft Proclamation of Notifiable Diseases and the draft Notice of Prohibition of Entry of Africans from Tanganyika Territory except by Pass. It is hoped that this Board will play a very important part in dealing with the health organisation in the country. It ensures that health legislation will not be passed without every aspect of its effect on the general population being explored, and at the same time it provides machinery for keeping the general public informed of the reasons and necessity of proposed legislation.

2. Another event of importance during the year was the holding of the Second Pan-African Health Conference at Johannesburg. The representative of this Department on that occasion was Dr. H. S. de Boer, Deputy Director. The Conference considered many subjects, but the most important were those of Yellow Fever and Rural Sanitation. With the former of these I will deal in a later paragraph.

In connection with Rural Sanitation the Conference stressed the dependence of the improvement of rural sanitary conditions on the economic position of the African peasant. It is true that general measures of sanitation are usually expensive, but considerable improvement in rural sanitation, certainly in countries such as Uganda, can be attained with very little expenditure on the part of the general population. It costs nothing except the labour of the family to maintain the surroundings of the house in a clean condition; it costs nothing to increase the ventilation inside a mud and wattle house by the removal of the upper six inches of mud at the junction of the wall and roof, and it costs nothing to make sufficient openings in the walls to permit of sunlight penetrating into the building; it costs nothing to provide grass or small reed shutters to close such openings at night time. These facts have already been proved in certain areas of the Protectorate. Even improved structural alterations in houses require little more than additional labour. The raising of the height of the walls so that it is unnecessary to bend double in order to enter the hut is gradually becoming the rule in certain districts of the Protectorate. It may mean that the African has to walk a little further to get the poles with which he builds, but the improvement in the general living conditions inside the house is such that there is little doubt that this change in construction will become the general rule and not the exception as it has been in the past. The Forest Department is alive to the necessity for the provision of suitable building poles, and with this end in view is putting in plantations of cassia at many Gombolola headquarters.

The mud and wattle hut which is the standard throughout the Protectorate is an unsuitable type of building as it requires constant repair, and is very dangerous from the plague point of view in that as soon as it becomes even a little dilapidated it gives a ready harbourage for rats. Replacement by *pisé de terre* which becomes, with the majority of soils available in this country, as hard and as impossible for rats to penetrate as stone or brick, does not require very much expenditure except the initial one of two heavy pieces of board and distance pieces as moulds. The rest of the work is largely a matter of labour. Even the moulds can be dispensed with as has been demonstrated by the building of what is known as the Nigerian type of hut at the Mwirasandu Mine. This method of building was demonstrated at the Kampala Health Exhibition and is admirably suited to the conditions in the greater part of the Protectorate, particularly in those areas where building poles are becoming scarce. The Department is therefore urging the adoption of *pisé de terre* buildings wherever possible, and is training Africans in this method of building so that they may be used in the districts as demonstrators.

Further improvements in the African house do require money. The improvements can be effected in two places, the roof and the floor. The roof to be rat-proof and enduring must be made of impermeable material, those normally available being corrugated iron and tiles; the floor can be made impermeable by using cement, or by mixing powdered brick dust and lime.

It will take time before the African appreciates these changes in type but there is no doubt that as he sees the temporary buildings in use by Government going up in *pisé de terre* and lasting so much longer than his own mud and wattle structures, he will realise that to save himself the constant labour of repair which his hut requires it will pay him to develop a much more permanent method of building construction.

It has been our aim to convert all temporary buildings for Government into permanent structures, both from the point of view of the recurrent expenditure which temporary buildings require and also to serve as examples for the general African population. The necessary expenditure, however, when all Government buildings are considered, amounts to a very considerable figure, and for this reason it will probably be necessary to have recourse to the *pisé de terre* construction for many of the Government buildings.

For similar reasons it is unlikely that the Missions will be able to convert their present temporary school buildings into buildings of permanent material within a reasonable time. On the other hand, it should not be difficult for them to replace their present dilapidated insanitary temporary dormitories and schoolrooms by more hygienic *pisé de terre* buildings.

Recently we have had brought to our notice a new method of house building which uses hessian as reinforcement for a cement plaster. The cost of such a building is not more than half that of a similar sized one built in stone or brick or cement block, and the use of this method of construction may prove to be the best solution to many of the problems of replacement of present temporary buildings.

It must not be forgotten, however, that even in the British Isles the provision of better houses for the slum-dweller has not changed his habits in a day, and a recent report indicates that some of the new housing is as verminous and filthy as the slums from which the occupants came, and concludes that until education has weaned the population of slumland from its apathy to dirt and its tendency to revert to the conditions under which it has been reared from infancy, so long must it be expected that the degradation of new housing will continue. Similar remarks might be made in regard to the African peasant. He does not look on his present method of living as uncleanly, and as he has always been accustomed to use a minimum of water for his domestic requirements because he has to carry every drop, the necessity for improved water supplies hardly enters into his thoughts. Fortunately, education is making rapid strides in the Protectorate, and the more advanced native appreciates clean clothes, at least externally. It is unfortunate perhaps that the donning of a white *kanzu* covers the deficient laundering of the clothes below. It may, however, be anticipated that if hygienic teaching in schools goes hand in hand with the practice of hygiene therein (as it unfortunately seems so seldom to do) the African population will make rapid progress towards a higher standard of domestic cleanliness. As an instance may be cited the case of two boys at one of the larger boarding schools in Uganda who, when they returned home for the holidays, refused to live in the old huts they had formerly occupied on the ground that they had no windows and no ventilation.

3. While I am dealing with this subject of rural sanitation I should like to draw attention to what has been effected during the past year. In the 1934 Annual Report mention was made of the improvements which were being made in rural water supplies by the impounding of springs in covered reservoirs with outlet pipes at a sufficient height to allow a bucket being put under them. Various methods of constructing these impounding works have been used in different parts of the Protectorate, some being made in brick and cement, some in concrete, and some in puddled clay only. In Gulu a school was held under the guidance of the Public Works Department for training Africans in a simple method of shallow well construction. I have recently had the opportunity of seeing a well which has been constructed in Madi by boys trained at this school who were left to carry out the work without supervision. The result was a credit to the training that they had received and allows one to hope that within a reasonable time rural water supplies will be greatly improved and in many cases made safe. Difficulty has arisen over methods of dealing with shallow wells. In many places the water coming into these wells contains a considerable amount of very finely divided matter forming practically a colloidal suspension. In the case of a spring the solution is comparatively easy as the water can be filtered before it leaves the outlet pipe. In the case of a well the matter is considerably more difficult and various schemes dealing with it are under investigation, particularly in the West Nile. The most successful so far has been the provision of a stone lining to the well with a layer of small gravel about a foot in thickness covered with two feet of well washed river sand.

In another direction improvement in sanitary conditions has been effected by the provision of Africans who have been given a short training in simple methods of rural sanitation. These Africans are attached to a European Sanitary Inspector for a period of two or three months, during which they are taught methods of pit latrine construction, of ventilating the ordinary native house, of window construction for such houses, and of the disposal of refuse either by burning in a cheap and readily constructed incinerator or by burial. These overseers are then attached to a Gombolola Chief and it is their duty to keep a constant watch on the inhabitants of the gombolola and to report to the Chief where a householder fails to keep his compound cleared for 30 feet back from his house or to burn rubbish or neglects to build a latrine. At the same time the overseers try to persuade householders to improve their houses by increasing the ventilation and the lighting. In this they have been successful beyond all expectation in many places and one looks forward with hope to a time when each Chief will have a sanitary inspector of this type attached to his gombolola.

In connection with general sanitary measures, mention must be made of the schemes which have been approved in 1935 for the provision of water-borne sewerage for a large part of Kampala, and of piped water supplies for Entebbe, Mbale and Tororo. Instructions have also been given for the preparation of schemes for the provision of piped water supplies for all townships in the Protectorate. These are all in hand, but none were completed by the end of the year.

4. A very large part of the energies of the staff of the Department has been devoted during 1935 to the improvement of hygienic conditions in factories, schools and townships. Draft Masters and Servants Rules were issued in May, 1935, and provoked a storm of protest from employers of labour. Many of the objections which were taken to the Rules were due to misinterpretation of the provisions. Certain other objections which were made were based upon the fact that a large part of the African staff quarters did not comply with the standards laid down in the Rules. A considerable advance even since the Rules were published has, however, been made in the housing of Government labour, and it is intended that as rapidly as funds and staff permit the housing of all Government African staff shall be brought into accordance with the new standard.

An opportunity to test this Department's contention that application of these Rules paid an employer from a financial point of view was given by the decision to make a road from Fort Portal to Bwamba to open up that district. Three years ago when the Fort Portal—Mbarara road was constructed the sick rate amongst the labour employed on that work was abnormally high. Government decided that in the construction of the Fort Portal—Bwamba road the labour should be housed and fed in accordance with the draft Masters and Servants Rules. Information which is available up to the time of writing indicates that the sick rate has been negligible and that the improved conditions have led to a larger output of work than was expected. It will not be for another year that the financial side of the question can be assessed. It is probable that the increased cost will be covered by the increased output, but even if this were not the case the improved health of the labour and the reduction of the sick rate would make the application of the Rules for future road construction a sound economic proposition.

In the 1934 Report it was mentioned that the labour camps attached to ginneries had been considerably improved. This, unfortunately, was not the case all over the country, and at the commencement of the cotton season at the end of 1935 many camps, particularly in Buganda, had not complied with the conditions which are considered a minimum for the health of the labour. Certain ginnery owners, having had experience of building temporary camps up to the standard required by Government and seeing the recurrent expenditure required as a result of the deterioration of these camps owing to their being unoccupied for six months of the year, have decided to put up labour lines in permanent material, and several plans for such have been passed by this Department. It is to be hoped that every ginnery owner will follow suit or at least bring his labour camps up to the standard which is the minimum which we can allow from the health point of view.

Schools, too, have caused a considerable amount of worry, because on the one hand there is no doubt that there is an enormous demand for education from the young African, and on the other the funds available are quite insufficient to provide school buildings of a size and number adequate to prevent overcrowding. The consequence is that at a very large number of schools, particularly bush schools, the schoolrooms are badly built and rapidly fall into disrepair, while sanitary conveniences are either entirely absent or quite inadequate. Schoolrooms and school dormitories are almost everywhere overcrowded. The school authorities do not like to refuse admission to those asking for education, and on the other hand they are unable to increase the accommodation through lack of money. Nevertheless it is necessary that a minimum standard of accommodation both in schoolrooms and in dormitories should be laid down to ensure that education is carried out under reasonably hygienic conditions and not under those which would not be tolerated elsewhere. In one school dormitory nine square feet per head was the total floor space available for children of from 8 to 12 years of age, and at the same place 16 square feet was all that was allowed for adult women attending the school.

5. An advance in sanitary conditions which has to be recorded for this year is in connection with the smaller townships. The standard of cleanliness in the Asiatic bazaars generally has definitely improved under the supervision of the Sanitary Inspectors attached to this Department, but a considerable amount still remains to be done in the way of getting rid of insanitary conditions connected with the over-building of plots and over-crowding due to the resultant sub-letting. Now that the Public Health Ordinance has been passed it will be possible to deal with such conditions as constitute nuisances under that Act. It may not be possible to remove completely the abuses which have grown up before sanitary control was instituted, but it will be possible to ensure that any buildings which are erected in the future conform to modern standards of hygiene.

An advance has also been made in dealing with drainage in these townships. It has been the practice in the past to devote a small sum each year to the conversion of temporary drains into permanent ones, but unfortunately, owing to the multiplicity of persons who have had to deal with this matter, the drains which have been put in year by year do not necessarily conform to a set scheme, and as a result it has been found in one or two cases that a certain section of the drainage is left high and dry because it cannot be connected with the rest of the township drains. This year instead of spending small sums in each township it has been decided that the money available for drainage shall be devoted to the completion of the whole of the drainage in certain townships.

Better protection of food supplies from flies and dust has been effected in most townships through the supervision exercised by the Medical staff. Dust-proof receptacles have been introduced into many shops for the holding of food offered for sale. Up to the present the measures adopted in this connection have been largely persuasive and it has been remarkable how when one shop-keeper has been cajoled into putting in a proper counter and proper food containers, others have speedily followed his example.

Many of the station markets have now benches built either in permanent material or with poles and branches so that the people who use the market for the sale of their products can lay these out above the ground level and thus reduce the dust nuisance to a minimum. In some cases grass sheds have been built over these tables to protect the vendors from rain and sun.

6. Dealing next with the position of a country in regard to disease we have had to record for the first time since 1924 the introduction of smallpox. The first case was discovered in April, 1935, in an African pilgrim who had returned from Mecca. Fortunately no extension of the infection occurred. At the end of December, 1935, a second case was introduced from India, which since the end of the year has led to a considerable number of cases in other parts of the Protectorate, mainly in and around Kampala and the neighbouring districts. Vaccination has of late years been voluntary, and it is probably true to say that not more than 10 per cent. of the general population was protected at the beginning of 1935. The danger arising from this position was realised in preceding years and in 1934, towards the end of the year, a scheme for voluntary vaccination of the Buganda Province was put into action. The advent of the case in April considerably hastened the application of the scheme, but subsequent investigation has shown that as a result of voluntary vaccination at the best not more than 50 per cent. of the men and 15 to 20 per cent. of the women and children become protected. The methods then adopted for the protection of Kampala township itself, however, resulted in some 60 per cent. of the population receiving protection from smallpox. From April to December endeavours to intensify the vaccination compaign met with little success. The further history of the introduction of smallpox in December and the subsequent extension of the disease in the non-immune population remains to be told in next year's Report.

Trypanosomiasis has given rise to considerable anxiety in the West Nile district. The position on the River Koich detailed at some length in last year's Report has not improved, and the danger which arises in that area from the concentration of population creating a demand for more land makes it urgent that steps should be taken for the eradication of this focus, or at least for its reduction to the same incidence as in the rest of the West Nile. The suggestion by Mr. Chorley of the blocking of the main river and of the sub-streams entering it, by block clearings, 400 yards wide, has proved a complete failure, not because the idea was not sound in itself but because fly have been found to cross even a 500 yards clearing with comparative ease. Similar investigations in Kenya on the effect of block clearing have shown that a minimum cleared area of 800 to 1,000 yards long by 100 yards deep is essential if the blocks are to be really effective. This is an impossible position on the Koich as a clearing even of 500 yards is a very large undertaking. The combination of two block clearings 500 yards long with a connection running along the river only 20 yards deep instead of 100 yards deep between them is now being tried. If this proves successful, then the suggestions made by Mr. Chorley in 1934 may prove to be of use.

Once again plague has shown a marked rise in incidence. It had been hoped that the control measures suggested by Sir Edward Thornton when he visited the country in 1930 had been successful in reducing the plague menace to a relatively minor problem, but it is now evident that the decline in the number of cases of plague was not associated with these control measures but was merely due to the fall in an epidemic wave. We have now apparently reached the ascending portion of the next wave, and the most alarming feature of the outbreak has been the large area over which sporadic cases have been found. There has been no suggestion of a central focus with a spread centrifugally. Cases have occurred first in one place, then perhaps twelve miles away, then perhaps three miles away, and a month later perhaps close to the original focus. On each occasion where a case has been discovered, a gassing gang has dealt not only with the house in which the infection has occurred but also with those within a wide circle around it. So far only two measures appear to have effected any definite control. In Teso the simple measures for the improvement of rural sanitation mentioned in a preceding paragraph seem to have called a halt to a quite considerable outbreak of plague on the southern borders of that district. In Busoga the measures taken consisted not only in gassing but also in de-roofing the huts and re-thatching them. These measures proved extraordinarily effective, and the plague incidence in the affected district dropped immediately. As is mentioned elsewhere, the chiefs themselves were so impressed with the effect of the measures that in a further outbreak at some distance from the original one, they themselves adopted the same procedure before the departmental staff arrived.

A large number of cases of cerebro-spinal fever has occurred during 1935 in the Western Province, but with the onset of the rainy season the incidence of the disease has diminished and no further steps are apparently necessary at the present moment for its control.

Perhaps the most important disease to which our attention has been drawn during the year is yellow fever. The number of positive sera received from certain districts in the Protectorate showing immunity by the mouse protection test gave rise to some doubts as to the specificity of this particular method of diagnosis at least as applied to Uganda. It seemed improbable that sufficient cases of yellow fever should have occurred in the past to give rise to the percentage of immunes in the general population that the survey showed without cases of the disease being reported through the medical agencies in these particular districts. This was more especially so as the attention of Medical Officers had been particularly drawn to the necessity of investigating fevers of doubtful origin. However, the statements in regard to the silent areas in South America made in papers published on the subject of yellow fever and in the exposition given by Dr. Soper at the Pan-African Conference have inclined the Department to believe that cases may be occurring but are not being reported. Dr. Soper visited the country after the Conference and it was his opinion that there was every reason to suppose that we should within a short period of time find definite cases of yellow fever, particularly if we introduced the viscerotome service on the lines in force in South America. Whether this is so or not seems to be of little moment, the main necessity at present being for an investigation of the possibility of yellow fever occurring in these areas and of Uganda being the easternmost limit of the disease in this latitude. Accordingly, should any scheme be proposed for an intensive survey of the suspected regions of the country in conjunction with the Sudan Government every effort would be made to facilitate the work of the investigators. Meanwhile the potential danger has been considered sufficiently great to justify in the first place a survey for the distribution of *Aedes aegypti* in our townships, and in the second place the organisation in the more important townships of definite anti-mosquito measures for the complete elimination of *Aedes aegypti* breeding places. This was the decision at the close of the year, and doubtless in 1936 further steps will be taken to implement the recommendations put forward by the Pan-African Conference for those areas where yellow fever may be expected to occur in tropical Africa.

The malaria position has shown litttle change during the past year. In the Eastern Province, as will be seen in the body of the Report, large areas have now been planted up by the Forest Department and a considerable amount has been learnt as to the type of trees suitable for various swamp conditions. It may be accepted that afforestation offers one of the cheapest and most successful methods of dealing with swampy conditions in the neighbourhood of townships. Along other lines, we have attempted during the year to overcome one of the great difficulties of anti-malarial drainage arising from the torrential rains which we experience at certain periods of the year. During storms the ordinary earth drain carries off a considerable volume of water and the general tendency is for the sides to be scoured out and for the width of the channel to be constantly increased. This necessarily means that when the storm waters have subsided and the stream flow has been reduced to normal these drains show at their base a tiny trickle of water meandering through silt in a water-logged condition. When a person walks across this silt his footprints leave depressions which form most suitable breading places for *A. gambiae*. Perhaps one of the worst places where this occurs is Soroti, and there the difficulty has been completely met by the revetting of the sides of the drains and the complete filling of them with large-sized rubble. The normal stream flow then passes along the bottom of the drain in the rubble while the storm waters flow mainly over the top and are prevented by the stone from scouring the banks.

There has been an apparent increase in the incidence of trachoma, or perhaps it would be more correct to say that more cases have been diagnosed. It will be necessary to give serious consideration to measures to control this disease lest it should develop into one of the major problems with which the Department is faced.

7. Great stress has always been laid by the Department upon the necessity for looking after the new generation, and it will be seen from a later section of the Report that there has been a very definite increase not only in the number of ante-natal and maternity cases treated, but also in the number of children who are brought up for examination at child welfare clinics. These clinics are apt to develop into children's dispensaries rather than along the lines of the home type of child welfare clinic, but every effort has been made this year to see that the figures which are given indicate the attendance of healthy, or relatively healthy, children who have been brought to see that their general progress is satisfactory and who at the most require minor treatment for ailments such as constipation or stomachic disturbances. Children brought for serious illnesses are shown on the general sick returns. It is pleasing to see that not only has the number of cases at Government hospitals increased but also the number of cases attending at maternity clinics established by the Missions. It should be pointed out, however, that the figures given of attendances at these clinics in some cases represent not only children but also male and female adults who, owing possibly to the distance of the nearest sick dispensary, prefer to come for treatment to the maternity centre even though the midwife has received no training in the treatment of any disease other than disorders connected with pregnancy.

8. The educational policy of the Department as outlined in previous years has been continued. One development that is projected but has not actually been brought to fulfilment is the appointment of a joint Examining Board for Medicine for Eastern Africa. The consent of the other East African Governments has been obtained to this scheme and it is hoped that the Board will be formed early in the new year and will then lay down the curriculum which medical students trained at Makerere and Mulago Medical School must undergo before presentation for examinations. The Board will also appoint examiners for the examinations in medical studies and will exercise supervision over the standard requisite for passes and for honours.

A new text book for the Nursing Orderly Course has been written by the joint efforts of Dr. J. P. Mitchell, the Medical Superintendent, and Miss Bagot, the Lady Superintendent of Nurses. At present this has only been cyclostyled, but it is expected that in 1936 the book will be available in printed form.

An additional course which has been projected is that for Health Orderlies. An Instructor in Hygiene was appointed about the middle of 1935, and the course which has now been laid down is the result of joint conferences between the officers most concerned in the development of this type of orderly. As a result of this course we should have a number of fairly well educated Africans available as Junior Sanitary Inspectors, and later by selection from these it may be possible to present candidates for an examination held under the aegis of the Royal Sanitary Institute entitling the successful candidate to a certificate given by their examining body.

9. Finally, attention is directed to the fairly full report of the Mbale Welfare Exhibition. As one of the methods of educating the general population in the necessity for the improvement of hygienic conditions it has been the policy of the Department to encourage health shows in various parts of the Protectorate. As was recorded in last year's Report one was held in Kampala in the middle of 1934 and proved very successful. The one which has been held during the current year was developed on somewhat different lines to the Kampala show in that the site was chosen at a county headquarters near Mbale and laid out as a model village, so that the permanent buildings and even some of the temporary ones which were erected for the purpose of the Exhibition should remain as a permanent demonstration to the surrounding population of the standards of housing at which we are aiming. So successful was the Native Administration in obtaining lessees for the various buildings at an economic rent that it is proposed to establish similar village centres at the other county headquarters of the district. In a relatively wealthy Native Administration such a health show is of undoubted value. Elsewhere in the Protectorate than the Eastern Province it is probably not possible to set aside the same amount of money for building permanent buildings. Nevertheless it is quite possible with a small outlay to develop an exhibition teaching the same lessons as that of Mbale.

10. Throughout the year Medical Officers and Sanitary Inspectors have in most districts taken every opportunity of addressing the Chiefs and the general native population at Lukikos on the subject of improvement in housing, in water supplies and in general village conservancy and individual cleanliness. It will be long probably before these talks bear much fruit, but in certain districts it is very noticeable that the height, ventilation and lighting of houses have conformed more and more to the standard advocated by departmental officers.

A vis-projector has been ordered which enables photographs demonstrating the various lessons that we wish to inculcate to be placed on a cinematograph film and used in a similar fashion to lantern slides. The latter have proved very cumbersome and very liable to damage, and therefore a projector of this new type is very welcome. It had not arrived by the end of the year, but should it prove successful it is hoped that it will be possible to purchase several during 1936, for issue to Medical Officers to assist them in giving lectures at villages where they happen to be visiting at night.

(A) Staff.

11. Principal Appointments, Promotions, Changes, etc.

Appointments.—

Dr. A. H. Mowat to be Surgical Specialist	1- 1-35
Dr. R. Y. Dunlop to be Medical Officer	6- 4-35
Dr. H. C. Trowell to be Medical Officer	8-12-35
Miss B. Roques to be Nursing Sister	1- 6-35
Miss T. Thomson to be Nursing Sister	14- 6-35
Miss E. A. Vincent to be Nursing Sister	11- 7-35
Miss D. Jago to be Nursing Sister	24- 8-35
Miss C. L. Storey to be Nursing Sister	3-10-35
Miss D. A. Hunter to be Nursing Sister	5-10-35
Mr. H. Jordan to be Instructor of Hygiene	30- 7-35
Mr. J. Hetherington to be Storekeeper and Pharmacist	16-11-35
Mr. W. Johnson to be Sanitary Inspector	1- 1-35
Mr. N. G. Lennon to be Sanitary Inspector	19- 3-35
Mr. I. W. Beaton to be Sanitary Inspector	27- 7-35
Mr. F. G. Ward to be Sanitary Inspector	9- 8-35

Acting Appointments.—

	from	*to*
Dr. C. R. Lutze-Wallace, Assistant Director of Medical Services, to act as Deputy Director of Medical Services	9-5-35	25-10-35
Dr. E. A. C. Langton, Senior Medical Officer, to act as Assistant Director of Medical Services	9-5-35	25-10-35
Dr. R. S. McElroy, Medical Officer, to act as Senior Medical Officer	1-1-35	31-12-35
Miss E. A. McGill, Nursing Sister, to act as Senior Nursing Sister and Lady Superintendent of Nurses	1-1-35	13- 5-35
Mr. H. M. W. Nicholson, Assistant Superintendent and Dispenser, to act as Storekeeper and Pharmacist	1-1-35	14-12-35

Death.—

Dr. A. J. Garde, at Mombasa	23-10-35

Termination of Appointment.—

Miss C. E. V. Clarke, Nursing Sister	18- 7-35

Honours.—

Rai Sahib Achhru Ram, Civil Surgeon, to be a Member of the Most Excellent Order of the British Empire (Civil Division).

The following Members of the Medical Department were honoured by the gift of the King's Silver Jubilee Medal:—

The Honourable Dr. W. H. Kauntze, M.B.E.
Dr. H. S. de Boer, M.C.
Dr. C. R. Lutze-Wallace.
Dr. J. P. Mitchell, O.B.E.
Mr. H. T. Bott.
Rai Sahib Achhru Ram.
Miss R. A. Bagot.
Israel Lutu.
Tito Mugalya.
Juma Kola.
Isaya Kasimula.
Zedekia Ndolerire.

(B) List of Ordinances affecting Public Health, etc., enacted during the year.

12. Bhang Ordinance, 1935.
Public Health Ordinance, 1935.
Suppression of Rabies Ordinance, 1935.

Registration of Medical Practitioners and Dentists.

13. The Ordinance governing registration came into force on the 1st July, 1913, since when and up the 31st December, 1935, the following have been placed on the registers:—

Registered Medical Practitioners	178
Registered Medical Practitioner and Dentist	1
Dentists	8
Licensed Medical Practitioners	95

14. The numbers actually on the registers on the 31st December, 1935, were as follows:—

Registered Medical Practitioners	88
Dentists	8
Licensed Medical Practitioners	39

Registration of Midwives.

15. The Ordinance governing registration came into force on the 31st March, 1927, since when and up to the 31st December, 1935, the following have been placed on the register:—

Europeans and Asiatics	78
Africans	207

16. The numbers actually on the registers on the 31st December, 1935, were as follows:—

Europeans and Asiatics	56
Africans	198

(C) Financial.

17. The expenditure on medical services during the year was £148,907 2s. 20cts. which represents 9·5 per cent. of the total revenue of the Protectorate.

The total revenue of the department was £18,165 13s. 48cts.

SECTION II.—PUBLIC HEALTH.

(A) General Remarks.

18. *Establishment.*—During the year a Surgical Specialist was appointed, and as a consequence the number of Medical Officers on the establishment was reduced by one. There was an increase in the establishment of Nursing Sisters from 20 to 25, a decrease of Sub-Assistant Surgeons from 17 to 15, and an increase of Senior African Medical Assistants from 19 to 22. In addition an Instructor of Hygiene was appointed, and the number of European Sanitary Inspectors was increased from 10 to 14.

19. *Returns for the Year.*—The following table compares the figures for the last six years:—

	1931	1932	1933	1934	1935
New Cases (excluding examinations) ...	661,658	684,835	743,719	831,240	906,486
In-patients	28,525	24,072	30,185	33,200	33,805
In-patient days	495,343	439,639	493,481	462,802	464,673
Total attendances	2,842,769	3,016,851	3,045,074	3,209,315	3,139,985
Surgical operations	3,850	3,514	4,908	4,796	4,443

20. The percentage of females to the total number of new cases (excluding examinations) was 39·5.

21. *Cases by Races.*—

	1934		1935	
	New Cases.	Admissions.	New Cases.	Admissions.
European	3,135	398	2,911	377
Asian	7,783	844	7,696	944
African	820,322	31,958	895,879	32,484

22. Eighty-seven dispensaries were in use at the beginning of 1935; of these Pader in Chua was moved to Gere-gere as the original position was too near an infected sleeping sickness area. New dispensaries were opened at Omoro in Lango, Bulisa in Bunyoro, and Lufori in Madi, and permanent buildings replaced the old temporary structures at Namungalwe in Busoga, Nagongera and Butaleja in Budama, Kisomoro in Toro, and Kisolo in Kigezi. In addition, nursing orderlies who hold clinics, particularly for the treatment of yaws, are stationed at dispensaries in Teso, Toro and Kigezi. These orderlies have a regular itinerary to the neighbouring gombololas at each of which they attend once weekly. It was found that patients were far more regular in their attendances at these clinics than at dispensaries, which were in many cases situated at considerable distances from their homes. Maternity centres in permanent material were built at Butaleja in Budama, Kamuge in Bugwere, and Kisolo in Kigezi, while the temporary centre at Bugembe in Busoga was replaced by permanent buildings.

23. The number of cases (including examinations) seen at station hospitals and dispensaries was as follows:—

	New Cases.	Re-attendances.		
Hospitals ...	382,478 ...	682,336		
Dispensaries ...	652,060 ...	1,423,111		
TOTAL ...	1,034,538 ...	2,105,447	Total Attendances ...	3,139,985

24. *Deaths in Hospital.*—The principal causes during the last five years were:—

	1931	1932	1933	1934	1935
Total deaths	1,236	1,264	1,357	1,550	1,724
Pneumonia	274	279	285	356	346
Accidents	116	115	133	143	173
Plague	19	40	52	29	41
Syphilis	48	41	48	55	43
Dysentery	37	26	25	28	48
Malaria	81	50	57	107	116
Tuberculosis	56	66	66	89	62
Cerebro-spinal meningitis ...	22	15	14	43	76
Cancer	13	4	8	17	26
Child-birth	44	28	66	67	78
Death rate in hospitals ...	4·48%	5·62%	4·51%	4·68%	5·09%

25. There was a decrease in the number of deaths from pneumonia but as the number of admissions was somewhat lower the death rate rose from 22·23 per cent. to 23·36. A large number of the cases occurred among immigrant labour. Though there is again an increase in the number of deaths of women in child-birth, the death rate fell from 4·92 per cent. in 1934 to 4·29 per cent. The increase in the number of deaths from malaria is discussed elsewhere.

I. GENERAL DISEASES.

26. *Epidemic, Endemic and Infectious Diseases.*—The following table shows the number of cases and deaths recorded in this group for the last five years:—

	Total Cases all Groups.	Epidemic, Endemic and Infectious Diseases.		Percentage of this Group to all Groups.	
		Cases.	Deaths.	Cases.	Deaths.
1931 ...	661,658 ...	193,005 ...	397 ...	29 ...	31·0
1932 ...	684,835 ...	201,062 ...	348 ...	29 ...	25·7
1933 ...	743,719 ...	207,905 ...	423 ...	29 ...	31·2
1934 ...	831,240 ...	233,001 ...	506 ...	28 ...	32·6
1935 ...	906,486 ...	245,080 ...	543 ...	28 ...	31·4

27. The increase in the numbers in this group, 12,079, is accounted for by larger numbers of cases of malaria (2,351), influenza (2,740), and yaws (7,649).

28. *General Diseases.*—61,053 cases, compared with 62,870 in 1934 and 51,470 in 1933, were recorded. There were 118 cases of cancer compared with the following numbers in previous years:—

1930.	1931.	1932.	1933.	1934.
91 ...	58 ...	81 ...	56 ...	149

Though the number of cases diagnosed in the last two years has been appreciably higher than previously, there is no certain evidence that there is an increase in the incidence of the disease.

29. *Affections of the Nervous System and Organs of Sense.*—There was a small decrease in numbers to 70,315. Cases of headache, neuralgia, insomnia, etc., which are in a large proportion of instances symptomatic of other diseases account for nearly a quarter of all cases in this group. There were 71 deaths compared with 40 last year. Of these 22 were due to meningitis and 12 to apoplexy.

30. *Affections of the Circulatory System.*—5,127 cases with 57 deaths occurred, compared with 4,923 cases and 38 deaths in the previous year. Valvular disease of the heart and disease of the arteries appears to be comparatively uncommon in Uganda. Considering the very large proportion of the population which has apparently suffered from syphilis, this is surprising.

31. *Affections of the Respiratory System.*—99,381 cases with 371 deaths, compared with 98,269 cases and 374 deaths in 1934 were returned. Three hundred and forty-six of the deaths in this group were due to pneumonia.

32. *Diseases of the Digestive System.*—There was an increase from 104,379 to 106,446. There were 139 deaths of which hernia, in most cases after operation for strangulation, provided 47.

33. *Diseases of the Genito-Urinary System.*—There were 4,115 cases of whom 1,952 were women. Last year's figures were 3,911 cases and 1,706 females.

34. *Puerperal State.*—The table below gives the number of new cases in the last five years :—

	1931.	1932.	1933.	1934.	1935.
Women who attended for ante-natal supervision	3,760	7,254	12,110	12,828	18,864
Number of attendances of women for ante-natal supervision	—	—	—	33,107	47,472
Women who attended for conditions connected with the puerperal state	993	1,356	2,050	2,064	2,976
Women admitted to hospital for child-birth	620	786	853	1,101	1,502
Babies born in hospital	591	758	822	979	1,358

35. As will be seen, there was a very marked advance in the numbers attending ante-natal clinics and maternity centres. Though the number of still-births was high, it must be remembered that a number of women in labour come to hospital only as a last resort, when the baby is already dead and their own lives are in grave jeopardy.

36. *Affections of the Skin and Cellular Tissues.*—125,930 cases, compared with 127,257 were recorded. Apart from a drop of about 3,000 in the number of cases of scabies, there was little difference in the figures of the more important diseases in this group.

37. *Diseases of the Bones and Organs of Locomotion.*—3,937 cases, an increase of 98, were treated.

38. *Malformations.*—Among the 15 cases was a monster born at Masaka. The District Medical Officer stated that having delivered a full-term child who never breathed, he found there was another *in utero*, and eventually a monster with no arms and no head was born.

39. *Post-Natal Supervision and Diseases of Infancy.*—

1931.	1932.	1933.	1934.	1935.
878	1,390	2,206	3,029	10,653

A very great increase in the numbers of infants supervised by the Department occurred during 1935. This was partly accounted for by the policy of posting to out-stations Nursing Sisters who supervised the clinics not only at the station hospital but often at dispensaries as well.

40. *Affections produced by External Causes.*—There were 111,684 cases with 178 deaths, as against 98,971 cases and 146 deaths in 1934. There were 52 deaths from burns among 7,370 cases, of which 460 were admitted to hospital. Though 311 persons were bitten by snakes only two died.

41. Last year, partly owing to the records at Aboki dispensary having been destroyed by fire, an unusually large number of cases, 35,510, was returned as not being recorded by diseases.

II. COMMUNICABLE DISEASES.

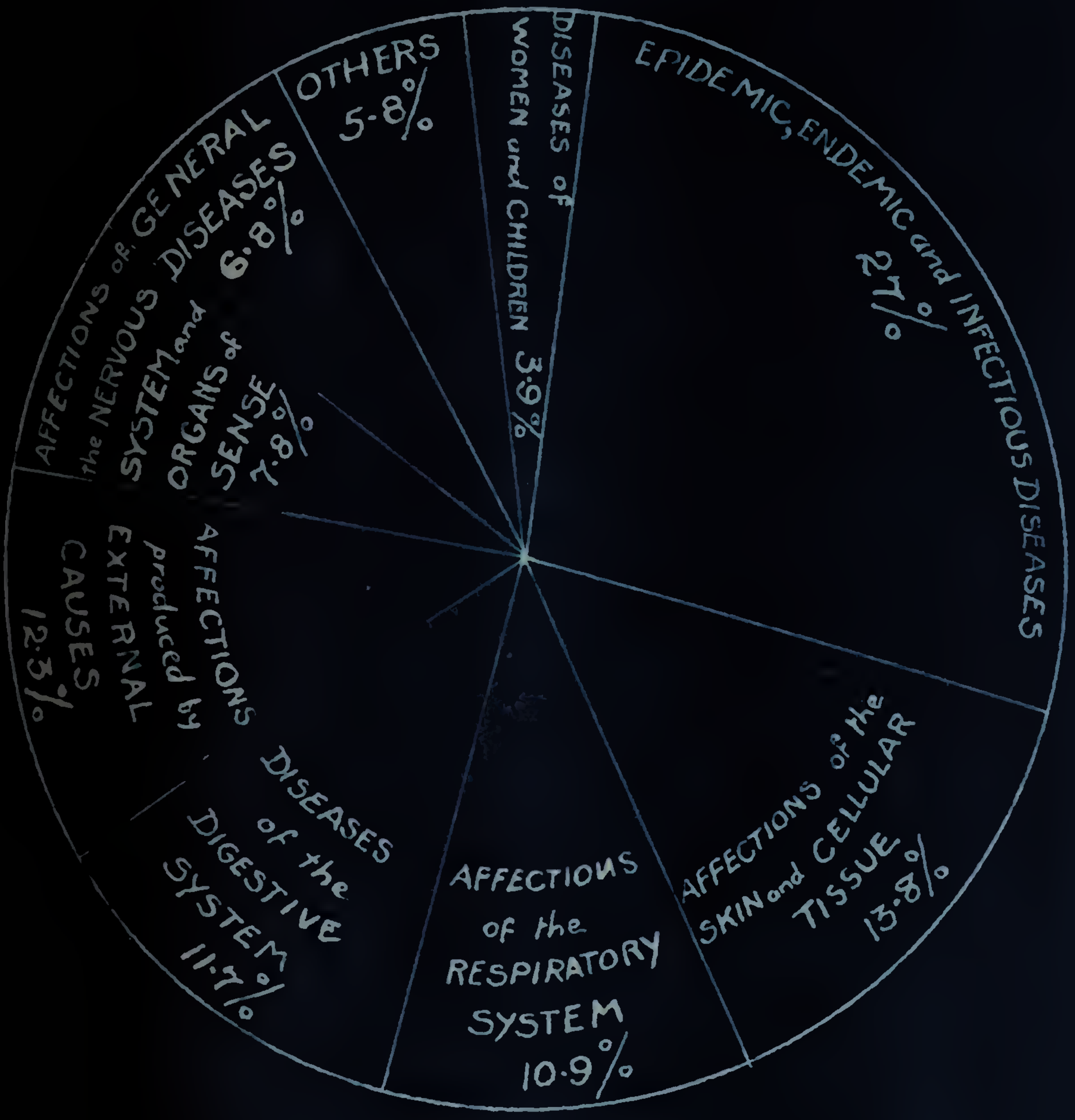
(a) Mosquito or Insect-borne.

42. *Trypanosomiasis.*—The following table shows the number of new cases and number of reported deaths since 1905 :—

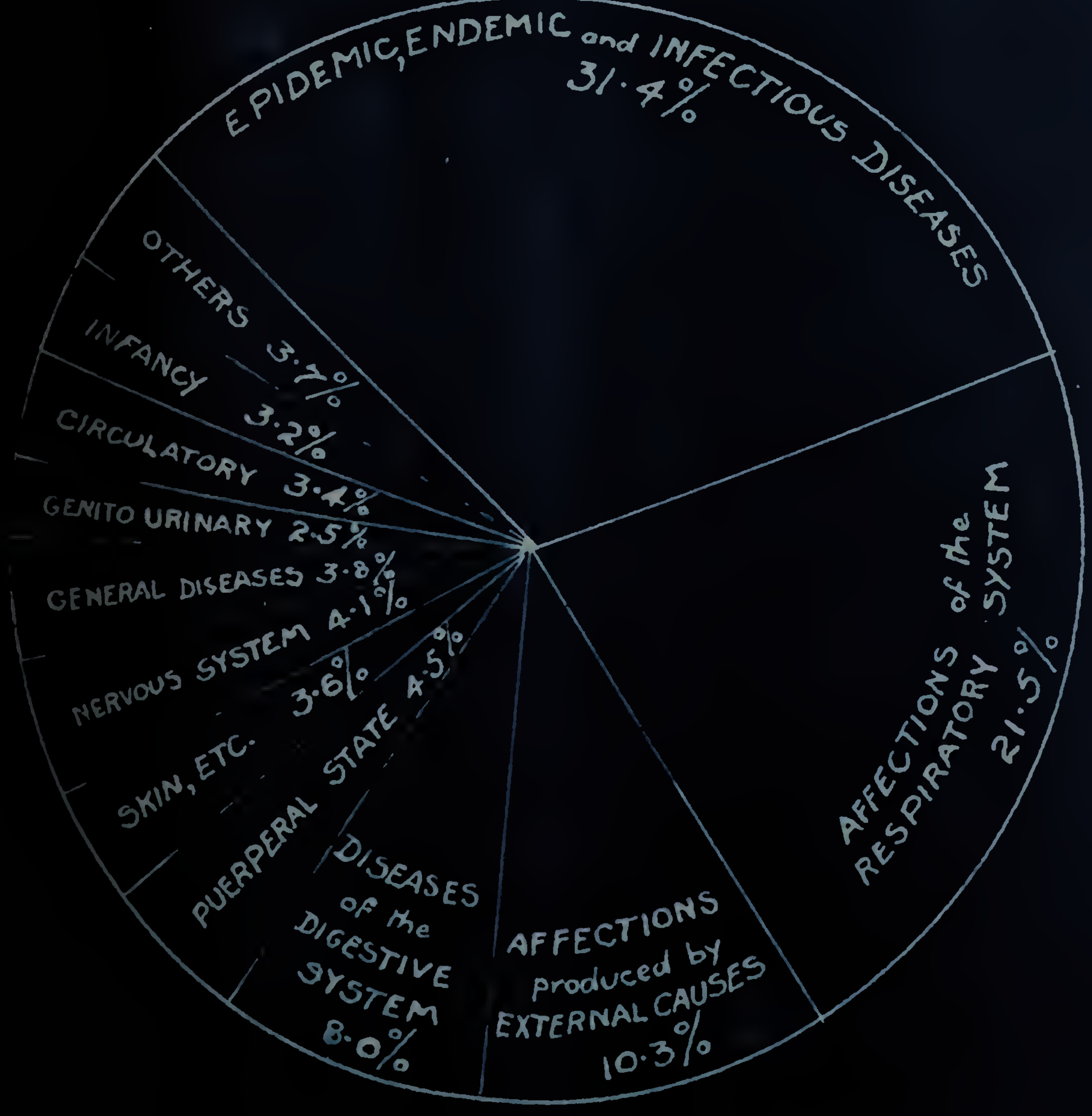
Year.	Reported deaths.	Year.	Reported Deaths.	Year.	Reported Deaths.	New Cases.
1905	8,003	1915	352	1925	209	153
1906	6,522	1916	209	1926	123	372
1907	4,175	1917	229	1927	79	496
1908	3,662	1918	235	1928	67	1,024
1909	7,782	1919	109	1929	78	3,349
1910	1,546	1920	69	1930	51	727
1911	1,487	1921	32	1931	117	513
1912	932	1922	31	1932	85	536
1913	708	1923	16	1933	109	693
1914	466	1924	194	1934	127	773
				1935	72	675

The above figures include suspected cases, of which there were 40 in 1935.

THE PROPORTION OF EPIDEMIC, ENDEMIC, INFECTIOUS, SYSTEMIC AND OTHER DISEASES SHOWN AS PERCENTAGES OF TOTAL CASES

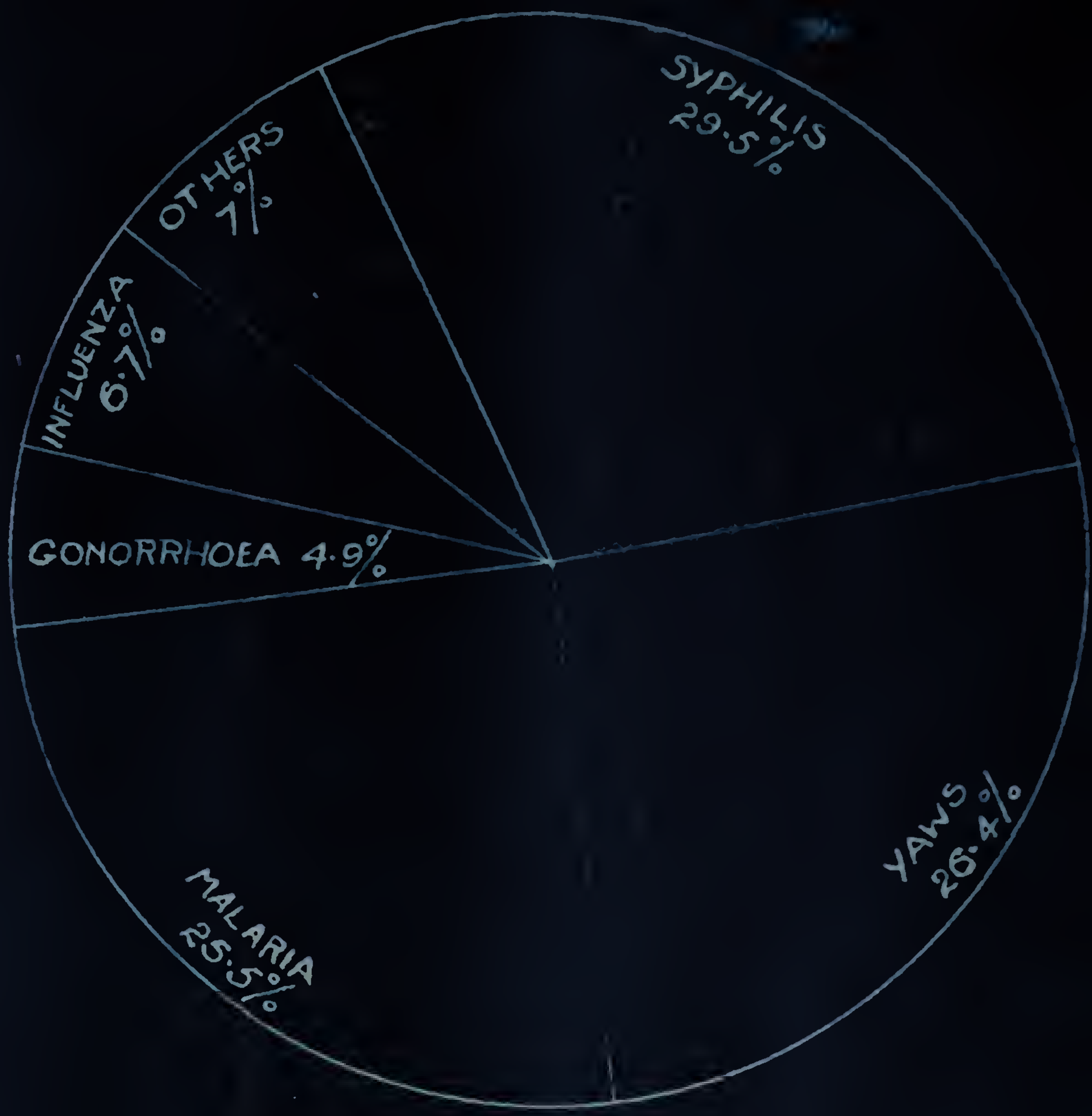


TOTAL INCIDENCE:- 906,486

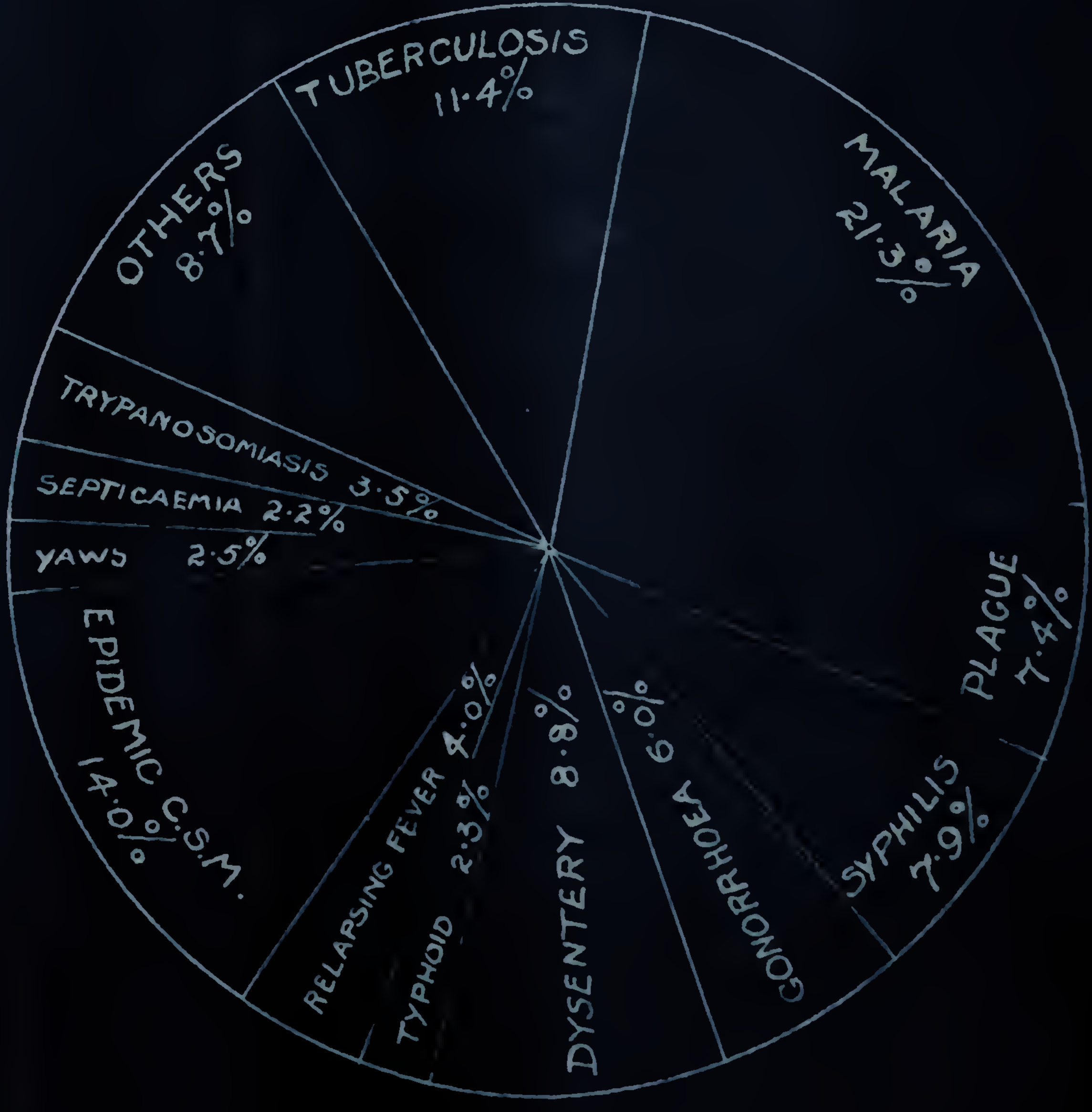


TOTAL DEATHS:- 1,724

THE PROPORTION OF EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES



TOTAL INCIDENCE:- 245,080



TOTAL DEATHS:- 543

43. The distribution of cases for the last five years has been :—

	1931.	1932.	1933.	1934.	1935.
West Nile	433	317	495	615	568
Gulu	12	14	9	22	16
Madi	32	21	22	21	13
Chua	11	29	23	24	14
Lake Edward-George Area	10	144	130	81	64
Kigezi	—	—	—	1	—
Lake Victoria Area	15	11	4	—	—
Source of infection uncertain	—	—	10	9	—

Included in the total for the West Nile are two cases in natives from that district discovered, one in Busoga and one in Teso. In addition, 133 cases who had relapsed received further treatment in 1935. Seventy-two deaths were reported, 25 in hospitals and the remainder in the districts.

44. *West Nile Sleeping Sickness Area.*—

	1931.		1932.		1933.		1934.		1935.	
	Old.	New.	Old.	New.	Old.	New.	Old.	New.	Old.	New.
Cases treated in Arua and Sub-Dispensaries	—	59	14	29	30	48	25	46	7	46
Cases treated in Aringa and Sub-Dispensaries	63	326	59	264	93	404	58	561	77	503
Cases treated at Junam and Sub-Dispensaries	108	48	8	24	36	43	3	8	—	17

45. *Aringa County.*—The greater number of cases occurring in the Protectorate are infected in the neighbourhood of the Koich river system in the West Nile district. There was, however, an outbreak near Terego from which area cases had not previously been reported.

46. *Junam Area.*—There was an increase from 8 to 17 in the number of new cases diagnosed during 1935.

47. *Gulu and Madi Sleeping Sickness Areas.*—The incidence for the last five years has been :—

	1931.		1932.		1933.		1934.		1935.	
	Old.	New.	Old.	New.	Old.	New.	Old.	New.	Old.	New.
Gulu	71	12	25	14	26	9	12	22	14	16
Madi	94	32	387	21	314	22	393	21	23	13

The position is considered satisfactory in both these districts. Fourteen deaths, four of which occurred in hospital, were reported from Madi, and three, all in hospital, from Gulu.

48. *Chua Sleeping Sickness Area.*—The following table shows the number of cases treated since 1931 :—

	1931.		1932.		1933.		1934.		1935.	
	Old.	New.	Old.	New.	Old.	New.	Old.	New.	Old.	New.
Kitgum	3	11	18	29	21	23	8	24	9	14

Twelve of the new cases occurred at Pader. The dispensary formerly situated at Pader was removed to Gere-gere as people attending at Pader had to pass and repass an infected area.

49. *Lake Victoria Area.*—No new cases have been reported from this area since 1933, but the position, particularly along the Busoga coast where fishermen from Kenya are apt to trespass into the closed area, requires careful watching.

50. *Lake Albert-George Area.*—

	1931.		1932.		1933.		1934.		1935.	
	Old.	New.	Old.	New.	Old.	New.	Old.	New.	Old.	New.
Cases seen at Fort Portal and dispensaries	21	10	9	144	18	130	44	81	21	64

There was a drop in the number of cases diagnosed. Of the 64 new cases seen only 29 were confirmed by the microscope. No deaths, either in hospital or in the district, were notified. The Senior Medical Officer reports that the results of treatment were satisfactory and that little difficulty in persuading the people to attend regularly was experienced.

51. *Plague.*—There was a considerably greater number of cases reported, 2,010 with 1,871 deaths, compared with 977 cases and 937 deaths in 1934. As the following table indicates the main increase was in Mengo, Busoga and Lango. As usual, the Western Province, and the Northern Province with the exception of Lango, were free of the disease.

	1934.		1935.	
Buganda Province.—	Cases.	Deaths.	Cases.	Deaths.
Mengo	339	331	704*	693*
Entebbe	30	30	31	31
Masaka	30	27	5	5
	399	388	740	729
Eastern Province.—				
Busoga	135	118	505	379
Bugwere	142	136	204	203
Bugishu	14	14	40	40
Budama	50	49	27	26
Teso	5	3	30	30
	346	320	806	678
Northern Province.—				
Lango	232	229	465	464

* Including nine cases with seven deaths in Kampala township.

52. It will be observed that, while in the remainder of the Protectorate 1,492 deaths occurred in 1,506 cases, a death rate of 99 per cent., in Busoga the mortality was only 75 per cent. It seems probable therefore that whereas a large proportion of the cases of the disease in Busoga were reported, in other parts of the Protectorate many of the less severe cases passed undetected or at least unreported. The death rate for the whole country was last year 93, in 1934, 96, in 1933, 97, and in 1932, 94 per cent. These rates are extremely high.

53. *Deaths reported from Plague since 1916.*—

Year.	Deaths.	Year.	Deaths.	Year.	Deaths.	Year.	Deaths.
1916	4,384	1921	5,871	1926	1,589	1931	2,299
1917	4,031	1922	1,305	1927	1,863	1932	990
1918	2,493	1923	914	1928	1,174	1933	833
1919	1,022	1924	810	1929	5,118	1934	937
1920	1,732	1925	869	1930	2,370	1935	1,871

A total of 42,375 deaths in 20 years.

54. *Relapsing Fever.*—There was a considerable decrease in the number of cases, from 1,135 to 656. Twenty-two deaths occurred in hospital. The number of cases returned in the last few years is as follows:—

Year.	Cases.	Year.	Cases.	Year.	Cases.
1927	2,000	1930	884	1933	1,387
1928	2,494	1931	871	1934	1,135
1929	1,879	1932	1,336	1935	656

55. As usual, practically all the cases occurred in the Western Province and in Masaka, the numbers in these districts for the last three years being as follows:—

	1933.	1934.	1935.
Toro	28	18	40
Kigezi	46	45	65
Ankole	856	958	353
Masaka	323	87	131
TOTALS	1,253	1,108	589

Fifteen cases occurred in Mubende, 32 were treated at Mulago, seven in Busoga, and six in Hoima. At the latter place a prisoner confined in the Native Administration gaol was discovered to be suffering from the disease, and a search revealed the presence of *Ornithodorus moubata* in the prison buildings. The gaol was immediately evacuated and the inmates lodged in the old asylum which was empty. There was a further case in another Native Administration gaol, which was also closed.

56. The District Medical Officer, Kabale, stated that the majority of the cases in his district occurred in immigrants, and that practically all were infected in Ankole. He considers it unlikely that the disease is endemic in Kigezi, or that ticks, apart from occasional ones brought in on clothes or loads, can flourish in the district.

57. *Typhus.*—Only six cases (compared with 103 in 1934, 140 in 1933, and 120 in 1932) occurred during the year, and it is evident that the universal use of Carnie's disinfestor, described in last year's Annual Report, has been successful in controlling the disease, but if the present low incidence is to be maintained it will be necessary to continue the use of the apparatus.

58. *Malaria.*—62,581 cases with 116 deaths in hospital, an increase of 2,351 and 9, respectively, were returned in 1935. Of these, 24,856 were treated in station hospitals and 37,725 in dispensaries. 3,910 cases were admitted to hospital as in-patients of the 24,856 cases reported from station hospitals, 10,556 were diagnosed by the microscope, a percentage of 42. Sub-tertian infection was by far the commonest, 7,593 cases as compared with 2,581 cases infected with benign tertian or quartan parasites. In Kitgum, Tororo, and Arua, however, benign tertian malaria was commoner, while the largest number of quartan infections was reported from Mbarara. A comparison of the number of cases of malaria in certain stations during the last three years is appended:—

	1933.		1934.		1935.	
	Diagnosed by Microscope.	Total.	Diagnosed by Microscope	Total.	Diagnosed by Microscope.	Total.
Kampala	1,626	5,878	1,376	6,035	1,802	5,715
Entebbe	862	1,298	613	1,144	461	1,358
Masaka	355	1,526	908	1,768	1,060	2,076
Mbarara	1,518	3,530	1,177	2,505	1,057	2,703
Jinja	817	1,996	1,293	2,594	940	1,883
Tororo	390	898	579	1,244	930	1,479
Soroti	98	1,101	598	2,071	505	1,445
Lira	658	1,516	625	1,195	549	993
Gulu	257	463	373	647	429	861
Masindi	235	822	503	774	445	969
Arua	473	924	877	1,374	758	1,188

59. It is surprising to find that Mbarara, a reputedly healthy station, returned an equal or even greater number of cases of malaria than any other place except Kampala for each of these three years. A probable reason of this is that a large number of Banyaruanda who may contract malaria during their journey to or in Uganda pass through this district. This would also account for the high incidence at Masaka. Though little conclusion can be drawn from these figures, it is possible that the steady fall in the number of cases at Lira may be due in part at least to the vigorous anti-malarial measures which have been taken there in recent years. The Kampala figures are high owing to the largest hospitals in the country being centred there, so that in many instances the number of cases represents admissions from other districts.

60. The distribution of malaria by Provinces was as follows:—

	Buganda.		Eastern Province.		Western Province.		Northern Province.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1933	16,910	19	14,861	18	8,583	9	8,348	11
1934	18,756	37	22,767	34	9,693	24	9,013	12
1935	19,200	46	24,256	52	9,900	6	9,225	12

61. Larger numbers, particularly in the Eastern Province, were treated throughout the country. The increase in the number of deaths in hospital in Buganda and the Eastern Province is disquieting. There were 28 deaths at Jinja, 19 at Masaka, 17 at Mulago, and 11 at Mbale, mainly among immigrant labour. The following table gives the number of cases admitted to hospital with the death rate for the last few years:—

	Number of In-patients.	Number of deaths.	Death rate per cent.
1933	3,199	57	1·78
1934	3,968	106	2·67
1935	3,910	116	2·96

Investigation into the cause of this increasing death rate is being carried out.

62. *Malaria in the Eastern Province.*—There was again an increase in the number of cases from this Province, and nearly 10,000 more persons were treated than in 1933. The distribution was as follows:—

	1934.		1935.	
	Diagnosed by Microscope.	Diagnosed on Clinical Grounds.	Diagnosed by Microscope.	Diagnosed on Clinical Grounds.
Jinja	1,293	1,301	940	943
Namasagali	169	155	90	165
Busoga Dispensaries ...	...	5,566*	...	8,626
Tororo	579	665	930	549
Budama Dispensaries ...	...	409	...	718
Mbale	198	964	176	455
Bugwere Dispensaries ...	3	1,293	...	1,312
Bubulu	39	966	84	598
Bugishu Dispensaries ...	...	4,667	...	3,945
Soroti	598	1,473	505	940
Teso Dispensaries ...	...	1,980	...	3,132
Moroto	13	119	23	125
Total for Stations ...	8,532		6,523	
Total for Dispensaries ...	13,918		17,733	
	22,450*		24,256	

*317 cases reported from the railway construction at Mbulamuti are not included in these figures.

63. It will be seen, therefore, that there was a very satisfactory decrease in all stations with the exception of Tororo, where there is a large floating railway population. There was a considerable increase in the number of cases treated in the Busoga and Teso dispensaries, but there is no reason to suppose that malaria is becoming more prevalent in these districts, the explanation being the increased willingness of the population to come for treatment.

64. The following table shows the incidence of malaria compared with all diseases in each province, and the number of cases per thousand of population:—

	1931	1932	1933	1934	1935
Buganda.—					
Cases of Malaria	23,002	19,263	16,910	18,756	19,200
Rate per 1,000 cases all diseases ...	139	119	104	103	99
Rate per 1,000 population ...	26	22	19	21	21
Eastern Province.—					
Cases of Malaria	12,230	10,673	14,733	22,614	24,108
Rate per 1,000 cases all diseases ...	45	42	55	80	78
Rate per 1,000 population ...	9	9	12	19	20
Western Province.—					
Cases of Malaria	8,394	9,169	8,583	9,693	9,900
Rate per 1,000 cases all diseases ...	88	80	80	70	66
Rate per 1,000 population ...	12	13	12	13	13
Northern Province.—					
Cases of Malaria	6,554	8,845	8,348	9,013	9,225
Rate per 1,000 cases all diseases ...	50	55	43	39	37
Rate per 1,000 population ...	14	11	11	11	11
TOTALS FOR PROTECTORATE.—					
Cases of Malaria	50,180	47,950	48,574	60,076	62,433
Rate per 1,000 cases all diseases ...	75	69	65	72	69·8
Rate per 1,000 population ...	14·4	13·6	13·7	16·8	17·4

Karamoja is excluded from the above figures and calculations.

65. *Blackwater Fever.*—One hundred and fifty-eight cases were reported.

	Males.		Females.	
	Cases.	Deaths.	Cases.	Deaths.
Europeans	8	—	5	—
Asians	120	34	19	7
Africans	6	—	—	—
TOTALS ...	134	34	24	7

66. Number of cases, deaths, and case mortality for the last 20 years. (Africans are excluded from all the following tables).

Year.	Cases.	Deaths.	Case Mortality.	Year.	Cases.	Deaths.	Case Mortality.
1916	46	10	21·7	1926	170	50	29·0
1917	49	8	16·5	1927	106	28	26·4
1918	40	7	17·5	1928	166	40	24·1
1919	83	13	21·7	1929	109	16	14·6
1920	56	7	12·5	1930	140	35	25·0
1921	62	15	24·1	1931	155	43	27·7
1922	83	14	16·8	1932	120	39	32·5
1923	71	17	24·0	1933	143	41	28·6
1924	70	23	32·8	1934	135	36	26·6
1925	81	22	27·1	1935	152	41	27·1

There has been little alteration in the number of cases or mortality during the last ten years.

67. During 1934, there were 144 cases with 39 deaths, comprising 12 Europeans with four deaths, 123 Asians with 32 deaths, and nine Africans with three deaths. Of the 158 cases in 1935, 66 cases with 16 deaths, of whom 34 with eight deaths were treated in hospital, were attended by Government medical staff, and the remainder by private practitioners. The 139 Asian cases included nine Goans and one Chinese, a boy of twelve who recovered. This is the first recorded case in the latter race in this country. One European official, two Asian members of the Public Works Department, and seven Asian officials of the Kenya and Uganda Railways and Harbours (one of whom died) contracted the disease.

68. The incidence by Provinces and stations for the last six years has been as follows:—

	1930.	1931.	1932.	1933.	1934.	1935.	
						Cases.	Deaths.
Buganda Province.—							
Kampala	29	35	34	43	40	38	7
Bombo	—	—	—	—	1	2	—
Entebbe	5	2	3	1	2	—	—
Masaka	—	1	3	4	—	8	2
Lugazi	5	8	4	8	2	3	1
Mubende	—	—	—	—	1	—	—
Nkokonjeru	—	—	—	—	1	3	1
District (unspecified) ...	7	16	—	—	—	—	—
TOTAL ...	46	62	44	56	47	54	11
Eastern Province.—							
Jinja	21	11	17	10	15	15	7
Kaliro	6	—	2	—	7	7	1
Kamuli	—	—	5	7	6	4	3
Namasagali	6	5	5	11	7	1	—
Mbulamuti	—	—	—	—	2	—	—
Iganga	2	3	—	—	—	—	1
Tororo	2	12	5	14	3	11	2
Magodes	—	—	—	—	—	1	1
Busia	—	—	—	—	—	1	—
Mjanji	—	—	—	—	1	—	—
Nagongera	—	—	2	1	—	3	1
Mbale	11	13	10	14	26	20	5
Soroti	8	8	9	9	7	4	—
Tira (Teso)	—	—	—	—	—	—	1
Serere	—	—	—	—	1	—	—
Ngora	2	5	9	3	—	7	1
TOTAL ...	64	73	64	70	75	76	21

	1930.	1931.	1932.	1933.	1934.	1935.	
						Cases.	Deaths.
Northern Province.—							
Arua	7	2	1	1	—	—	—
Pakwach	—	—	—	—	—	2	1
Hoima	2	—	2	2	—	3	1
Masindi	3	3	—	1	1	—	—
Budongo (Bunyoro)	—	—	—	—	—	1	—
Masindi Port	—	—	—	1	—	2	1
Butiaba	—	—	1	—	2	1	—
Gulu	1	7	2	1	2	2	—
Gulu District	—	—	—	—	2	—	—
Moyo	—	—	1	—	—	—	—
Kitgum	1	1	2	1	—	1	1
Paranga (Chua)	—	—	—	—	—	1	—
Lira	13	8	5	3	—	8	5
Kaberamaido	—	—	—	3	1	1	—
Kachung	—	—	—	—	1	—	—
Kelle	—	—	—	—	1	—	—
Aduku	—	—	—	—	2	—	—
Lango District	—	—	—	—	1	—	—
TOTAL ...	27	21	14	15	11	22	9

69. For the first time for many years, there were no cases in the Western Province, though in the Northern there was a considerable increase. The following table gives the incidence of the disease by Provinces:—

	1931.		1932.		1933.		1934.		1935.	
	Population: European and Asian.	Incidence of Blackwater fever per 1,000.	Population: European and Asian.	Incidence of Blackwater fever per 1,000.	Population: European and Asian.	Incidence of Blackwater fever per 1,000.	Population: European and Asian.	Incidence of Blackwater fever per 1,000.	Population: European and Asian.	Incidence of Blackwater fever per 1,000.
Buganda Province ...	8,522	5·9	7,746	5·9	7,746	7·6	7,451	6·3	8,142	6·6
Eastern Province ...	5,301	13·7	5,698	11·2	5,968	12·3	6,175	12·1	6,255	12·1
Northern Province ...	1,500	14·0	1,623	8·6	1,623	9·2	1,555	7·0	1,574	14·6
Western Province ...	827	4·7	805	1·2	805	2·5	877	2·2	1,050	—

Although the incidence was highest in the Northern Province, there were no cases among the 204 Europeans resident there.

70. The case incidence in age groups was as follows:—

Age.	Cases.	Deaths.	Percentage.	Age.	Cases.	Deaths.	Percentage.
0— 5 ...	10 ...	2 ...	20·00	21—30 ...	52 ...	14 ...	26·92
6—10 ...	7 ...	2 ...	28·57	31—40 ...	38 ...	14 ...	36·84
11—15 ...	9 ...	2 ...	22·22	41—50 ...	7 ...	1 ...	14·28
16—20 ...	25 ...	6 ...	24·00	67 ...	1 ...	— ...	—
				Unkown ...	3 ...	— ...	—

71. Two brothers of 16 and 10 years of age, the elder of whom had a second attack from which he died, contracted the disease within two months of each other. A girl of 13 who had had three attacks in previous years developed blackwater fever in May and again in September. Her mother had the disease in November. Taking all cases, nine persons had their second attack, two their first and second, one his third, the girl referred to above her fourth and fifth, and one man his eighth and ninth attacks during the year.

72. The months in which cases occurred were as follows:—

	Cases.	Deaths.		Cases.	Deaths.
January ...	6 ...	1	July ...	20 ...	3
February ...	5 ...	4	August ...	16 ...	6
March ...	9 ...	1	September ...	18 ...	4
April ...	14 ...	5	October ...	11 ...	3
May ...	12 ...	5	November ...	11 ...	2
June ...	14 ...	4	December ..	15 ...	3
			TOTAL ...	151 ...	41

73. *Case Incidence, Mortality and Fatality Rates.—*

	1923-1927	1928-1932	1933	1934	1935
Yearly average Population.—					
European	1,614	1,990	1,811	1,854	1,959
Asian	9,221	13,337	14,061	14,204	15,086
Total	10,835	15,327	15,872	16,058	17,045
Cases of Blackwater Fever.—					
European	72	70	7	12	13
Asian	421	612	136	123	139
Total	493	682	143	135	152
Deaths from Blackwater Fever.—					
European	16	14	1	4	0
Asian	120	159	40	32	41
Total	136	173	41	36	41
Case Incidence per 1,000 population.—					
European	8·92	7·04	3·86	6·47	6·63
Asian	9·13	9·18	9·67	8·65	9·21
Total	9·10	8·90	9·01	8·40	8·91
Mortality rate per 1,000 population.—					
European	1·98	1·41	0·55	2·15	—
Asian	2·60	2·38	2·84	2·25	2·71
Total	2·51	2·26	2·58	2·24	2·40
Percentage fatality rate.—					
European	22·22	20·00	14·28	33·33	—
Asian	28·50	25·98	29·41	26·01	29·49
Total	27·59	25·37	28·67	26·66	26·97

74. Though during the last three years the figures for Europeans show some improvement, there has been little alteration as far as Asians are concerned. As has already been shown, the disease mainly attacks adult males between the ages of 16 and 40, and is particularly fatal at that time.

75. The six African cases, all of whom recovered, occurred as follows:—

Place.		Tribe.
Hoima	...	Munyoro.
Lugazi Gaol	...	Munyankole.
Kampala	...	Munyaruanda (previous attack in 1933).
Kampala	...	Munyankole.
Kampala	...	Munyaruanda.
Kampala	...	Mutoro.

76. With the exception of the Munyoro, all these persons were out of their tribal area; on the other hand, the remainder had all been resident in Kampala for at least six months, and the third on the list had been living in Kampala for the last five years. Up till 1935 there had been 41 cases amongst local Africans with six deaths, six cases with one death among Seychelles natives, and one West African case. The incidence in Africans in the last few years has been as follows:—

	Cases.	Deaths.		Cases.	Deaths.
1929 ...	4	1	1932 ...	4	1
1930 ...	7	1	1933 ...	3	—
1931 ...	7	—	1934 ...	9	3

77. Previous to 1929, only seven cases appear to have been recorded. Though it is possibly true that cases which were not reported occurred previous to 1929, it is probable that the increase is principally due to the greater amount of travelling undertaken to-day by the African. There have as yet been no cases reported in African females.

(b) Infectious Diseases.

78. *Epidemic Cerebro-Spinal Meningitis.*—1,318 cases with 469 deaths were reported, as compared with 743 cases and 289 deaths in 1934. Of these, 144 cases with 76 deaths were treated in hospitals and dispensaries. The large majority of cases occurred in the Western Province.

	Cases.	Deaths.
Toro	48	23
Ankole	193	114
Kigezi	1,024	303
TOTALS	1,265	440

The epidemic in Ankole reported in 1934 had died down by the end of that year, but broke out again in May, 1935, reaching its greatest intensity in August and September, during which months there were 77 cases. In Kigezi, though cases occurred throughout the year, the epidemic was at its worst from August to October, during which three months 667 cases were reported. The District Medical Officer, Kigezi, reported that the incidence was heaviest immediately around Kabale, especially in one Muluka of the Gombolola of Bubale, where about three per cent. of the population were affected. The disease appeared to be most acute in adults and more chronic in children.

79. *Dysentery.*—4,434 cases with 48 deaths, an increase of 817 cases and 20 deaths, were treated during the year. These were diagnosed as follows:—

Amoebic	1,407 cases with 16 deaths.
Bacillary	578 cases with 21 deaths.
Undefined	2,449 cases with 11 deaths.

826 cases (compared with 553 last year) were admitted to hospital; the mortality among in-patients increased from 5·06 per cent. to 5·81 per cent. Amoebic dysentery is a serious menace to health particularly in Arua, Lira, Mbale and Jinja, where several cases occurred among Europeans. Carriers among the servants were discovered at Arua and Mbale. The District Medical Officer, Lango, reported that the incidence of the disease rises sharply to its maximum intensity towards the close of the dry season in March, and gradually decreases to reach its lowest incidence in December.

80. Influenza, 16,406 cases, of whom 748 were treated as in-patients, were reported. Mild epidemics occurred near Namasagali and Soroti, and one rather more severe in Ankole where there were a number of deaths from influenzal broncho-pneumonia.

81. *Syphilis and Yaws.*—The number of cases recorded during the last six years has been:—

	1930.	1931.	1932.	1933.	1934.	1935.
Syphilis	65,979	64,591	68,432	72,218	74,141	72,361
Yaws	38,066	47,598	43,773	49,546	57,056	64,715
Both diseases	104,045	112,189	112,205	121,764	131,197	137,076

82. It is, of course, not the case that there have been 718,476 new cases of these two diseases during the last six years. Very large numbers of sufferers have presented themselves at hospitals and dispensaries two, three or even more times during this time and even within a period of twelve months.

83. The distribution by Provinces during the last two years was:—

	1934.		1935.	
	Yaws.	Syphilis.	Yaws.	Syphilis.
Buganda Province	1,670	25,144	1,490	25,456
Eastern Province	10,479	20,802	9,311	24,511
Northern Province	27,936	4,197	25,354	4,367
Western Province	16,971	23,999	28,560	18,027

Syphilis is comparatively rare amongst the Nilotic peoples of the Northern Province, while yaws is extremely common. On the other hand, the Teso people who are Nilotics appear to be extensively syphilised, as 8,994 cases, including 631 in the primary and 1,755 in the secondary stage, were reported. In Buganda, yaws is rare, syphilis common, while from the Eastern and Western Provinces and in the Bunyoro of the Northern Province the two diseases seem to be of about equal incidence. Too much reliance must not, however, be placed on the diagnosis, as the largest number of cases is reported from sub-dispensaries, many of which are in charge of orderlies who having been trained in Buganda are more familiar with syphilis than with yaws. In the Western Province, a successful campaign was carried out against yaws, which accounts for the large increase in the number of cases treated. It was reported that the re-attendance of patients was good; unfortunately this is not generally the case as very many of those infected with either syphilis or yaws are content to be treated only until signs disappear. When these re-appear the patient returns to hospital, often as a new case, thus helping to swell the totals.

84. *Gonorrhoea.*—1935 revealed more cases than any previous year. Gonorrhoea is a wide-spread disease which causes a great deal of disability in all parts of the Protectorate except perhaps the Nilotic portions of the Northern Province. Unfortunately, few of those who come to hospitals persevere with treatment after the acute symptoms have subsided. The following table gives the number of cases treated in the last five years:—

1931.	1932.	1933.	1934.	1935.
8,931	10,591	10,702	9,690	11,849

85. *Leprosy.*—Reports on the Mission Leper Colonies:—

Buluba Leper Colony, Busoga, managed by the Franciscan Sisters. At the end of the year 91 lepers, comprising 39 men, 25 women and 27 children were in residence. One child was born in the settlement during the year. This colony is for able-bodied lepers only, and several who were unfit to work were sent to Nyenga. Thirty-six of the men cultivated their own shambas, but as much of the food was destroyed by wild animals cotton was substituted. Women also assisted in cultivation. One man worked full time as a mason and another as a porter, receiving the ordinary rates of pay. Eight houses built by the lepers themselves were completed and six were in course of construction at the end of the year, while the house for the Nuns was also finished. On arrival, the lepers received food free until such time as they could grow their own crops but this privilege was abused, many of the new arrivals making no effort to cultivate for themselves and decamping when rations ceased. As other difficulties with the residents occurred, it was considered advisable to appoint as a muruka chief of the settlement one of the lepers who would settle all disputes over land or other matters, leaving the Nuns to act in a purely medical capacity.

86. *Nyenga Colony* in Mengo, managed by the same Mission, reported that at the close of 1935 there were 128 inmates and that 226 attended as out-patients. The latter, however, came for treatment so spasmodically that improvement could not be expected. The patients were treated with alepol injections, and in addition 20 were given English iodised esters and 20 German iodised esters. The general health also received attention. The results of treatment were encouraging; five persons who were discharged free from active signs showed no relapse six month later. The adults were taught basket- and mat-making, and carpentry; several helped in erecting buildings; others were trained as nursing orderlies to assist with dressings and injections at the hospital. Food was also cultivated, and the compounds were kept clean and tidy by the inmates. The children, numbering 25, regularly attended school, which was under a Government certificated teacher. During the year two new brick huts, a house for a married couple, and a dormitory, all with the necessary bathrooms, kitchens and latrines, were built.

87. At the *Church Missionary Society Colony* at Bunyoni in Kigezi, 502 lepers, comprising 181 men, 140 women and 181 children were in residence on 31st December, 1935. By the end of the year a quarter of the population were housed in permanent buildings, but owing to lack of funds progress was not as rapid as had been hoped. One hundred and thirty of the children attended the school, which was under the supervision of Miss Langley.

88. *Teso Settlements.*—These comprise the *Kumi Childrens' Home* and the *Ongino Colony for Adults.* At the former there were four men, one woman and 220 children. In addition 902 lepers attended, though irregularly, as out-patients. During the year, three of the inmates died, 23 had much improved in health, though four in whom the disease had previously been arrested, relapsed. During the year, one large airy dormitory, making two in all, was completed, and another was in course of construction. The children assisted with the building, including the necessary carpentry, performed some of the dressings in the wards and were taught tailoring, in addition to attending school. At the *Ongino Colony*, there were at the end of the year 98 men and 62 women, while 628 attended as out-patients. Thirty-four were improved,

while four died. In addition, there were 23 healthy children living with their parents. These received education, but it was impossible to segregate them. Inunction with pure hydnocarpus oil was tried, and gave hopeful results. At the Serere Agricultural Farm, trees have been grown, and a number of seedings were issued to the settlements. These, however, will not reach bearing age for at least six years. Miss Laing is in charge of the leprosy work in Teso.

89. 1,445 lepers, a considerable drop on last year, were treated at Government hospitals, but attendance was in most cases so irregular that improvement could not be expected.

90. *Typhoid Fever.*—Fifty-one cases, of whom 45 with 13 deaths were treated in hospital, were seen by Government Medical Officers, while in addition five cases were reported by private practitioners. There were eleven cases at Masaka, five at Hoima, two at Kabale, and the remainder occurred at Kampala. Twenty-eight of the cases were Africans who were inmates at Mulago, and though it is not possible to state where they were infected the majority lived in and around Kampala. There were no cases among Europeans, but among Asiatics seven cases with three deaths occurred in Kampala, and five with one death in Masaka. Forty of all the cases were infected with *B. typhosus*, of whom 13 died; six with *B. paratyphosus B.*, all of whom recovered; and in the remainder the diagnosis was made on clinical grounds.

91. The incidence of typhoid fever in Kampala for the past 15 years has been as follows:—

1921	... 6	1926	... 37	1931	... 66
1922	... 6	1927	... 60	1932	... 12
1923	... 16	1928	... 56	1933	... 42
1924	... 6	1929	... 85	1934	... 54
1925	... 28	1930	... 39	1935	... 30

92. The case mortality for the Protectorate since 1924 has been:—

1924	... 27·3	1928	... 18·9	1932	... 18·1
1925	... 11·1	1929	... 16·4	1933	... 37·2
1926	... 17·6	1930	... 18·6	1934	... 23·6
1927	... 21·7	1931	... 20·0	1935	... 30·3

93. *Tuberculosis.*—The following table shows the numbers who have been treated during the last five years:—

	1931.	1932.	1933.	1934.	1935.
Pulmonary	299	... 588	... 719	... 900	... 737
Total cases	363	... 687	... 807	... 1,007	... 827
Deaths in hospital ...	56	... 66	... 66	... 89	... 62

94. There was a considerable decrease in the number of cases seen in 1935, but in 1934 doubt was expressed as to the reliability of the diagnosis in 149 cases of pulmonary tuberculosis reported from a dispensary. If these are excluded the totals for 1934 and 1935 vary little. From a critical study of tuberculosis at Mulago and Kabale, the District Medical Officer came to the conclusion that pulmonary tuberculosis was definitely on the increase, at any rate in those parts of the country served by those hospitals. He also considered that bone and joint lesions are common in Kigezi.

95. Investigations into the type of tubercle bacillus found in cases of phthisis were continued by Mr. J. Carmichael, Assistant Pathologist at the Veterinary Laboratory, Entebbe, throughout the year, 141 strains of *Mycobacterium tuberculosis* being typed. The criteria of type were the character of growth on glycerinated media, and the pathogenicity for rabbits in the usual differentiating doses.

Tribe.	Number.	Infected with bovine bacilli.	Tribe.	Number.	Infected with bovine bacilli.
Banyaruanda ...	32	... —	Bakiga ...	9	... 1
Banyoro ...	18	... 1	Bagishu ...	9	... —
Bahima ...	18	... —	Bazinga ...	3	... —
Bairu ...	7	... 2	Arabs ...	4	... —
Baganda ...	16	... —	12 other tribes ...	15	... —
Batoro ...	10	... —			
			TOTALS ...	141	4

The following were the details of the bovine cases:—

(1) Mwiru male, aged about 25 years, lived and worked in cattle kraals, and drank much milk.
(2) Mwiru male, aged about 30 years, tended cattle and drank milk.
(3) Munyoro female child of 3 years, whose father owned cattle.
(4) Mukiga female, aged about 21 years.

96. It is interesting that none of the Bahima, the great cattle tribe of Uganda, were infected with the bovine organism, though they live in the same huts as their animals.

A goat extensively infected with tuberculosis was found near Mbarara living in the same hut as human beings, all of whom were examined and found to have no signs of the disease.

97. *Anthrax.*—Twenty-one cases from Ankole and five from Masaka were reported. In addition, an outbreak occurred in Butiru Gombolola, Bugishu, in February. Five persons died from the disease, which, however, rapidly subsided.

98. *Rabies.*—In August, dogs in the West Nile District were found to be suffering from rabies. Anti-rabic serum was obtained from the Medical Research Laboratory, Nairobi, and persons who had been bitten by or had come into contact with those dogs received a course of treatment with the result that so far no human cases have occurred.

(c) Helminthic Diseases.

99. *Ancylostomiasis.*—2,274 cases, ten of whom died, appear on the returns. This figure bears no relation to the actual number diagnosed and treated, as at practically every station hospital routine examination of the stools of in-patients is undertaken and where helminths are discovered the patient is treated. Ancylostomiasis causes a considerable amount of debility among the peoples of Uganda.

100. *Taeniasis.*—3,278 cases, practically the same number as last year, were recorded. Masaka, and the three districts of the Western Province, all of which are cattle areas, provided two-third of the cases.

101. *Ascariasis.*—1,567 cases were recorded. As in the case of ancylostomiasis this worm is almost universal, and many more cases were diagnosed and treated while under observation for other diseases.

102. *Dracontiasis.*—2,056 cases, 28 more than last year, were treated. Practically all these were reported from the West Nile, Acholiland and Madi, and the few cases which occurred in the other Provinces were in Africans from those districts. Fortunately, no further cases occurred at Kaliro in Busoga.

103. *Schistosomaisis.*—161 cases, 124 of rectal and 37 of urinary schistosomiasis, were reported. Most of these were reported from Lira (30 cases), Hoima (21), Jinja (18), Entebbe (17), Arua (16), Gulu (12), Soroti (11), and Mulago (10). The District Medical Officer, Lango, reported that out of 1,043 stool examinations, in-patients undergoing treatment for other diseases, *S. mansoni* was discovered 65 times, and that the stools of 14 out of 83 school children proved positive for this helminth. Though 11 cases were treated in Soroti, the District Medical Officer, Teso, considered that schistosomiasis was not endemic in that area.

(B) Vital Statistics.

104. The vital statistics for the Protectorate are set out in Tables A, B and C. The population has been calculated from the census figures of 1931, with the addition of births and the subtraction of deaths in each subsequent year.

Yearly Increase or Decrease of Provincial Population.—

TOTALS PER 1,000 PERSONS.

	1932.	1933.	1934.	1935.
Buganda Province	+ 0·4	+ 1·7	+3·1	+ 3·4
Eastern Province	+11·5	+12·0	+3·5	+ 1·5
Western Province	+10·6	+11·0	+8·6	+ 6·3
Northern Province	+15·4	+15·0	+8·2	+14·2

The population of Karamoja has been omitted as no returns are rendered from that district.

Table A.—RETURN SHOWING BIRTH, DEATH, STILL-BIRTH AND INFANTILE MORTALITY RATES FOR THE UGANDA PROTECTORATE FOR THE LAST SEVEN YEARS.

Province and District.	Birth Rate per 1,000 Population.							Death Rate per 1,000 Population.							Still-Birth Rate per 100 Births and Still-Births.							Infantile Mortality Rate per 1,000 Births.							Maternal Mortality Rate per 1,000 Births and Still-Births.					
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935	1930	1931	1932	1933	1934	1935
BUGANDA :—																																		
Mengo ...	15·88	14·71	15·85	16·61	17·05	17·49	19·74	...	18·66	22·24	22·15	22·44	19·34	21·61	...	3·75	5·05	5·34	4·52	3·10	4·22	100·98	125·16	148·71	107·54	124·80	93·29	83·98	15·11	14·27	13·32	15·71	11·79	12·27
Entebbe ...	24·79	24·92	17·52	17·84	18·12	18·93	19·06	...	24·60	15·21	14·59	15 07	13·29	13·36	...	3·58	2 95	1·77	1·52	0·58	1·18	112·47	129·33	100·43	85·36	87·96	72·13	62·33	6·15	7·17	6·22	6·41	4·76	4·95
Masaka ...	25·22	26·35	27·97	25·20	29·79	29·92	28·84	...	20 68	18·44	17·42	16·64	16·78	16·38	...	2·86	3·57	5·39	3·07	4·04	4·48	109·03	106·37	97·41	89·54	96·10	83·03	76·96	9·30	7·66	5·15	6·90	6·53	5·94
Mubende ...	18·26	19·22	21·81	20·18	19·36	19·16	20·99	...	22·58	19·28	17·99	16·49	19·33	19·12	...	3·67	5·28	8·93	6·44	7·19	7·75	144·81	168·39	114·48	113·97	103·87	122·66	120·00	7·41	4·19	8·98	6·50	5·58	5·34
Total ...	19·78	19·70	19·70	19·25	20·23	20·67	21·71	18·47	20·77	19·46	18·84	18·62	17·51	18·29	6·65	3·45	4·29	5·37	3·87	3·61	4·37	112·86	128·16	118·21	99·60	105·59	90·92	84·16	10·23	9·07	9·23	9·75	7·81	7·95
EASTERN :—																																		
Busoga ...	35·48	37·39	31·84	31·38	31·66	27·49	26·45	18·91	26·38	23·69	22·68	20·82	23·53	24·36	4·51	4·73	6·09	7·97	7·59	7·78	7·65	292·72	267·00	234·93	206·04	202·66	229 65	227·75	13·28	13·32	13·06	13·84	13·50	13·75
Budama ...	25·63	37·55	34·24	33·86	36·25	28·70	31·42	...	22·75	21·39	16·95	21·39	22·58	24·57	...	1·99	1·42	1·83	1·18	0·69	0·63	373·16	264·02	211·05	145·24	123·03	142·43	147·47	12·72	10·31	11·36	10·36	11·94	12·26
Bugishu ...	35·12	31·64	43·31	37·82	45·45	30·55	33·52	...	21·88	23·75	20·10	24·87	23·25	21·53	...	7·37	6·46	5·76	5·32	5·20	5·05	210·05	264·59	231 84	172·86	196 68	272·87	207·00	17·37	13·94	11·82	11·26	12·48	8·70
Bugwere ...	22·48	26·85	26·89	29·43	31·96	29·62	28·00	...	32·59	25·63	18·82	20·34	28·04	37·27	...	4·78	6·95	5·28	5·66	5·70	6·29	364·29	196·63	181·56	134·84	142·58	155·52	188·65	20·32	16·16	11·79	11·51	12·75	19·72
Teso ...	19·11	21·87	23·34	23·90	21·93	18·93	16·36	...	19·15	23·73	15·53	15·51	18·75	18·31	...	0·82	0·87	0·30	0·17	0·32	0·31	121·13	85·03	88·30	87·81	93·77	102·83	97·81	15·24	13·02	12·39	10·46	12·47	14·47
Total ...	26·44	30·28	31·17	30·66	32·20	26·47	26·13	...	24·26	23·62	19·27	20·22	22·94	24·48	...	4·24	4·77	4·96	4·76	4·81	4·82	264·72	223·55	198·13	158·96	163·33	191·54	185·77	15·33	13·38	12·39	11·91	12·81	13·57
WESTERN :—																																		
Toro ...	42·92	34·35	24·26	21·12	20·92	22·58	19·98	20·30	24·26	21·70	17·30	16·00	16·76	16·73	24·03	3·58	5·71	5·58	3·81	3·83	3·28	322·26	360·76	377·57	278·54	207·66	190·40	223·29	16·58	19·25	19·08	14·58	23·18	10·30
Ankole ...	34·22	38·50	37·51	24·84	21·39	23·17	21·75	17·17	26·91	26·97	19·31	17·25	20·14	20·01	17·82	4·36	4 78	3·89	4·60	4·22	4·34	338·30	286·28	267·48	207·90	162·58	177·54	169·47	13·78	12·08	8·40	7·74	8·47	7·91
Kigezi ...	40·37	29·69	37·86	37·37	36·07	33·11	32·97	...	13·42	15·74	15·20	12·05	15·81	18·87	...	1·56	1·55	0·86	0·97	0·71	1·63	204·00	124·69	139·36	144·44	100·17	152·47	168·91	15·08	8·74	4·81	5·22	9·82	5·61
Total ...	38·28	34·55	33·95	27·92	26·13	26·33	25·05	...	21·69	21·87	17·41	15·18	17·77	18·73	...	0·37	3·83	2·95	2·79	2·68	2·92	290·57	256·57	243·08	194·81	143 88	170·01	180·89	14·83	12·35	9·15	8·12	12·51	7·43
NORTHERN :—																																		
Lango ...	33·13	33·27	34·63	38·22	37·27	33·63	37·06	...	21·09	26·76	20·66	20·99	28·43	30·06	...	2·07	1·31	0·57	1·03	1·53	1·46	210·83	198·09	189·12	132·05	122·66	181·73	133·75	10·56	10·91	8·13	8·76	8·95	9·72
Bunyoro ...	23·77	23·26	18·03	19·17	20·38	16·90	17·57	28·76	32·56	21·59	21·33	20·59	18·47	14·56	24·44	17·63	21·13	18·98	16·01	14·69	11·90	382·36	323·51	244·17	172·08	167·46	136·83	105·24	7·81	4·97	3·33	6·87	5·76	3·51
Gulu ...	39·60	45·28	40 83	44·90	51·31	50·90	53·71	...	27·41	27·57	24·33	26·79	40·56	23·68	...	2·71	2·97	2·33	4·35	5·19	5·52	226·64	311·18	365·69	252·14	238 11	325·99	143·94	11·96	17·22	6·17	5·71	4·19	3·00
Chua ...	39·13	47·64	53·96	52·57	46 75	46·26	50·44	...	24·54	29·18	30·90	24·35	27·60	22·38	...	5·73	6·12	5·66	5·59	6·59	5·68	346·02	334·04	327·12	341·89	305·10	356·53	283·03	23·40	16·96	22·44	17·60	21·35	16·41
West Nile ...	28·20	28·28	27·80	28 41	25·54	22·66	23·12	...	10·79	11·61	11·42	10·00	11·88	9·11	...	4·30	3·60	3·56	2·26	2·64	2·68	104·79	229·19	234·19	259·10	243·55	329·84	279·61	40·70	47·92	23 95	35·27	50·40	20·16
Total ...	32·12	33·97	32·73	34·58	33·83	31·25	33·40	...	20·49	21·37	19·32	18·49	23·10	19·31	...	4·83	5·04	4·26	4·19	4·57	4·19	220·28	259·22	258·54	223·33	206·14	271·89	191·31	20·74	22·39	13·87	15·66	19·26	11·19
Uganda Protectorate	28·13	29·19	29·18	28·11	28·39	26·05	26·43	...	22·06	21·75	18·30	18·43	20·58	20·66	...	4·06	4·53	4·46	4·09	4·08	4·19	232·75	223·65	209·71	173·19	160·64	188·53	165·88	15·74	14·60	11·56	11·81	13·48	10·60

Table B.—TABLE SHOWING INCREASE OR DECREASE OF REPORTED BIRTHS OVER REPORTED DEATHS FOR FIVE DISTRICTS FOR THE LAST 17 YEARS.

Year.	Buganda.	Busoga.	Bunyoro.	Ankole.	Toro.	Total Increment.
1919	— 5,709	— 3,135	— 2,061	— 1,870	— 176	— 12,951
1920	— 2,204	+ 2,025	— 1,012	+ 496	+ 907	+ 212
1921	— 711	— 1,483	— 997	+ 889	+ 1,896	— 406
1922	— 1,458	+ 2,953	— 891	+ 1,503	+ 1,872	+ 3,979
1923	— 624	+ 2,194	— 856	+ 1,611	+ 1,670	+ 3,995
1924	+ 37	+ 3,295	— 970	+ 2,329	+ 2,924	+ 7,615
1925	+ 1,059	+ 5,726	— 818	+ 3,727	+ 3,253	+ 12,947
1926	+ 1,179	+ 5,314	— 500	+ 2,891	+ 3,602	+ 12,486
1927	+ 3,475	+ 5,703	— 443	+ 4,446	+ 3,955	+ 17,136
1928	+ 1,091	+ 4,656	— 492	+ 4,848	+ 3,686	+ 13,789
1929	+ 1,357	+ 5,572	— 329	+ 4,238	+ 3,505	+ 14,343
1930	— 940	+ 3,799	— 801	+ 3,139	+ 1,571	+ 6,768
1931	+ 213	+ 3,084	— 406	+ 2,945	+ 497	+ 6,333
1932	+ 357	+ 3,322	— 246	+ 1,556	+ 743	+ 5,732
1933	+ 1,474	+ 4,184	— 24	+ 1,167	+ 962	+ 7,763
1934	+ 2,769	+ 1,536	— 179	+ 858	+ 1,143	+ 6,127
1935	+ 3,001	+ 813	+ 343	+ 494	+ 640	+ 5,291

TABLE. C.—VITAL STATISTICS RETURN OF THE UGANDA PROTECTORATE FOR THE YEAR 1935 (NATIVE POPULATION ONLY.)

PROVINCE AND DISTRICT.	TOTALS FOR THE WHOLE YEAR.										ESTIMATED POPULATION.	RATES FOR THE YEAR.				
	Live Births.			Still Births.	Deaths							Birth Rate per 1000 Population.	% Still Births to Births plus Still Births.	Infantile Mortality Rate per 1000 Live Births.	Maternal Mortality per 1000 Births and Still Births.	Death Rate per 1000 Population.
					of Children under 1 Year.			of Women in Child Birth.	All other Deaths.	Total Deaths.						
	M.	F.	Total.		M.	F.	Total.									
BUGANDA PROVINCE:—																
Mengo	3,579	3,363	6,942	306	315	268	583	89	6,927	7,599	351,612	19·74	4·22	83·98	12·27	21·61
Entebbe	1,769	1,824	3,593	43	124	100	224	18	2,275	2,517	188,524	19·06	1·18	62·33	4·95	13·36
Masaka	2,597	2,704	5,301	249	205	203	408	33	2,571	3,012	183,812	28·84	4·48	76·96	5·94	16·38
Mubende	1,697	1,585	3,282	276	222	172	394	19	2,576	2,989	156,399	20·99	7·75	120·00	5·34	19·12
TOTAL ...	9,642	9,476	19,118	874	866	743	1,609	159	14,349	16,117	880,347	21·71	4·37	84·16	7·95	18·29
EASTERN PROVINCE:—																
Busoga	5,308	4,962	10,270	851	1,248	1,091	2,339	153	6,965	9,457	388,249	26·45	7·65	227·75	13·75	24·36
Budama	2,362	2,500	4,862	31	349	368	717	60	3,025	3,802	154,730	31·42	0·63	147·47	12·26	24·57
Bugishu	3,235	3,091	6,326	337	673	637	1,310	58	2,694	4,062	188,681	33·52	5·05	207·00	8·70	21·53
Bugwere	2,510	2,478	4,988	335	485	456	941	105	5,593	6,639	178,118	28·00	6·29	188·65	19·72	37·27
Teso	2,281	2,197	4,478	14	251	187	438	65	4,511	5,014	273,769	16·36	0·31	97·81	14·47	18·31
*Karamoja	—	—	—	—	—	...	—	—	—	—	—	—	—	—	—	—
TOTAL ...	15,696	15,228	30,924	1,568	3,006	2,739	5,745	441	22,788	28,974	1,183,547	26·13	4·82	185·77	13·57	24·48
WESTERN PROVINCE:—																
Toro	2,102	1.839	3,941	134	442	438	880	42	2,379	3,301	197,202	19·98	3·28	223·29	10·30	16·73
Ankole	3,068	3,098	6,166	280	568	477	1,045	51	4,576	5,672	283,429	21·75	4·34	169·47	7·91	20·01
Kigezi	4,060	4,003	8,063	134	733	629	1,362	46	3,206	4,614	244,516	32·97	1·63	168·91	5·61	18·87
TOTAL ...	9,230	8,940	18,170	548	1,743	1,544	3,287	139	10,161	13,587	725,147	25·05	2·92	180·89	7·43	18·73
NORTHERN PROVINCE:—																
Lango	4,282	4,129	8,411	125	580	545	1,125	83	5,614	6,822	226,910	37·06	1·46	133·75	9·72	30·06
Bunyoro	1,046	959	2,005	271	116	95	211	8	1,443	1,662	114,114	17·57	11·90	105·24	3·51	14·56
Gulu	2,850	2,805	5,655	331	403	411	814	18	1,661	2,493	105,278	53·71	5·52	143·94	3·00	23·68
Chua	2,233	2,134	4,367	263	624	612	1,236	76	626	1,938	86,573	50·44	5·68	283·03	16·41	22·38
West Nile	3,005	2,932	5,937	164	870	790	1,660	123	557	2,340	256,751	23·12	2·68	279·61	20·16	9·11
TOTAL ...	13,416	12,959	26,375	1,154	2,593	2,453	5,046	308	9,901	15,255	789,626	33·40	4·19	191·31	11·19	19·31
UGANDA PROTECTORATE ...	47,984	46,603	94,587	4,144	8,208	7,479	15,687	1,047	57,199	73,933	3,578,667	26·43	4·19	165·88	10·60	20·66

* The population of Karamoja has been excluded from the total population and from all calculations of rates because no vital statistics are submitted from that district.

105. *Birth Rate and Death Rate.*—For the whole Protectorate the number of births exceeded the number of deaths by 20,654, and the population increased by 5·8 per thousand. The corresponding figures for 1934 were 19,456 and 5·4. This is in striking contrast to the returns for 1933, which were 35,249, and 10·0. As, however, the figures for each Province for 1934 and 1935 show a close similarity, it is probable that some degree of accuracy in registration has now been achieved. It is noteworthy that more than half the total increase was recorded in the Northern Province, inhabited mainly by the virile Nilotic races.

106. The birth rate and death rate per thousand for the years 1934 and 1935 is shown in the following table:—

	1934.		1935.	
	Birth Rate.	Death Rate.	Birth Rate.	Death Rate.
Buganda Province	20·67	17·51	21·71	18·29
Eastern Province	26·47	22·94	26·13	24·48
Western Province	26·33	17·77	25·05	18·73
Northern Province	31·25	23·10	33·40	19·31
Uganda Protectorate	26·05	20·58	26·43	20·66

Two districts of the Eastern Province showed an excess of deaths over births, Bugwere (651) and Teso (536); and in Mengo District of Buganda deaths exceeded births by 657. The latter is probably due to the number of immigrant labourers who yearly invade the district, principally from Ruanda. It is gratifying to be able to record that for the first time since 1915 Bunyoro showed an increase of population. This may be attributable in some degree to the greater attention paid to the supervision of pregnant women, and infants, by the medical staff in recent years.

107. *Still-Birth Rate.*—There was an increase in the number of still-births registered. Little reliance can, however, be placed on the rate based thereon as it is certain that a large number of such births is not reported. The rate for the whole Protectorate was 4·19.

108. *Infant Mortality Rate.*—With the exception of a rise in 1934 this rate has been gradually falling since 1926, when registration was first introduced. In that year, the rate was 276 per thousand births; in 1935 it had fallen to 165 per thousand. High rates were recorded in Chua (283), West Nile (279), Busoga (227), Toro (223), and Bugishu (207), but those of Mengo, Entebbe, Masaka and Teso approach the standard of European countries.

109. *Maternal Mortality Rate.*—Though this was lower than in 1934, the figure per thousand births (including still-births) is still very high. It is probable, however, that little reliance can be placed on the records of many districts. For example, the rate in Gulu was 3·0, and that in Chua 16·41. As both these districts are inhabited by Acholi, it seems improbable that there was such a great difference in the rate.

110. In the following table the native population as revealed at the census in 1931, and the estimated population at the end of 1935, is shown:—

	Census Figures.	1935.	Increase or Decrease.
Buganda Province.—			
Mengo	356,781	351,612	−5,169
Entebbe	185,219	188,524	+3,305
Masaka	175,404	183,812	+8,408
Mubende	155,342	156,399	+1,057
TOTALS	872,746	880,347	+7,601
Eastern Province.—			
Busoga	378,394	388,249	+9,855
Budama	147,917	154,730	+6,813
Bugishu	178,037	188,681	+10,644
Bugwere	175,517	178,118	+2,601
Teso	270,211	273,769	+3,558
TOTALS	1,150,076	1,183,547	+33,471
Western Province.—			
Toro	193,714	197,202	+3,488
Ankole	279,354	283,429	+4,075
Kigezi	226,080	244,516	+18,436
TOTALS	699,148	725,147	+25,999

Northern Province:—	Census Figures.	1935.	Increase or Decrease.
Lango	216,627	226,910	+10,283
Bunyoro	114,220	114,114	−106
Gulu	96,553	105,278	+ 8,725
Chua	78,974	86,573	+ 7,599
West Nile	242,345	256,751	+14,406
TOTALS	748,719	789,626	+40,907
UGANDA PROTECTORATE	3,470,689	3,578,667	+107,978

111. The average yearly increase or decrease per thousand since 1931 calculated on the census figures has been:—

Buganda Province.—	
Mengo	− 3·62
Entebbe	+ 4·45
Masaka	+11·98
Mubende	+ 1·69
TOTAL FOR PROVINCE	+ 2·17
Eastern Province.—	
Busoga	+ 6·51
Budama	+11·51
Bugishu	+14·94
Bugwere	+ 3·70
Teso	+ 3·29
TOTAL FOR PROVINCE	+ 7·27

Western Province.—	
Toro	+ 4·50
Ankole	+ 3·64
Kigezi	+20·38
TOTAL FOR PROVINCE	+ 9·29
Northern Province.—	
Lango	+11·86
Bunyoro	− 0·23
Gulu	+22·60
Chua	+24·05
West Nile	+14·86
TOTAL FOR PROVINCE	+13·65
UGANDA PROTECTORATE	+7·77

112. On the whole, the vital statistics for the Protectorate may be considered satisfactory. Mengo and Bunyoro are the only districts in which the population has decreased in the last four years. A reason for this in Mengo has already been suggested, and it is satisfactory to find that, in spite of the fact that for three of the four years, deaths have exceeded births in Bunyoro, the loss of population was nearly counterbalanced by the gain in 1935.

European Officials.

113. Only those officials who appear in the Protectorate Staff List are shown in Table D. Wives and families are not included.

TABLE D.

114. Table showing the sick, invaliding, and death rates of European officials, during the last three years:—

	1933.	1934.	1935.
Total number of officials resident	508	523	551
Average number resident	397	434	442
Total number on sick list	819	774	816
Total number of days on sick list	2,177	2,247	2,405
Average daily number on sick list	5·96	6·16	6·58
Percentage of sick to average number resident	1·50	1·42	1·49
Average number of days on sick list each patient	2·65	2·90	2·94
Average sick time each resident	5·48	5·18	5·44
Total number invalided	1	3	1
Percentage of invaliding to total residents	0·19	0·57	0·18
Total deaths	Nil	1	1
Percentage of deaths to average number residents	—	0·23	0·22
Percentage of deaths to total residents	—	0·19	0·18
Number of cases of sickness contracted away from station		No record	
Number granted local sick leave	23	22	32
Average number of days sick leave for each patient granted local sick leave	16·95	16·00	21·06

115. The most common diseases were:—

Malaria	242
Injuries	77
Influenza	42
Diseases of digestive system	55
Diseases of respiratory system	41
Amoebiasis	17

116. Medical Boards were held to enquire into the health of 11 European officials, and the following recommendations were made:—

(*a*) To be permitted to retire—cerebral thrombosis 1

(*b*) To be invalided out of the Service—carcinoma of testicle 1

(*c*) To proceed on home leave for treatment—
Fibrosis of lung 1
Acute ulceration of the caecum 1
Renal calculus 1
Hydronephrosis 1
Injuries inflicted by leopard 1
Dilated heart 1
Debility 1
Not yet diagnosed 1

(*d*) To remain in hospital until free of symptoms, and on discharge to be stationed in Kampala for six months under observation—
Amoebic dysentery 1

117. *Deaths*.—One from pneumonia.

European Non-Officials.

118. 2,095 cases of illness among the European non-official community were treated by Government Medical Officers. The number in 1934 was 2,361.

119. *Deaths*.—Nine deaths were recorded, compared with 16 in the previous year; the causes were:—

Imperforate anus	1	Puerperal fever	1
Tetanus	1	Accident	1
Heart failure, following mesenteric thrombosis	1	Heart failure	1
Cerebral thrombosis	1	Acute nephritis, following scarlet fever	1
Congenital hypertrophic, pyloric stenosis ...	1		

120. The principal causes of sickness were:—

Malaria	363	Diseases of respiratory system ...	82
Injuries	114	Diseases of digestive system ...	72
Tonsillitis	50	Amoebiasis	18
Influenza	44		

Asian Officials.

121. In Table E the wives and families of officials, officials of the Kenya and Uganda Railways and Harbours, and artizans employed by the Public Works Department on temporary agreement are omitted.

TABLE E.

122. Table showing the sick, invaliding, and death rates of Asian officials during the last three years:—

	1933.	1934.	1935.
Total number of officials resident	346	360	359
Average number resident	286	321	304
Total number on sick list	1,202	609	622
Total number of days on sick list	2,385	1,529	1,637
Average daily number on sick list	6·53	4·19	4·48
Percentage of sick to average number resident ...	2·28	1·31	1·15
Average number of days on sick list for each patient	1·98	2·51	2·63
Average sick time each resident	8·33	4·76	5·37
Total number invalided	6	4	3
Percentage of invalidings to total residents ...	1·73	1·11	0·83
Total deaths	1	2	—
Percentage of deaths to total residents	0·28	0·56	—
Percentage of deaths to average number resident ...	0·35	0·62	—
Number of cases of sickness contracted away from station		No record.	
Number granted local sick leave	7	7	7
Average number of days on sick leave for each patient granted sick leave	15·0	17·71	18·29

123. The most common diseases were:—

Malaria	332	Diseases of respiratory system ...	132
Influenza	58	Diseases of digestive system ...	17
Injuries	34		

124. *Medical Boards* were held on six Asian officials, with the following results :—

(*a*) To be invalided out of the Service—	
Chronic arthritis	1
General debility	1
(*b*) Appointment to be terminated—	
Tuberculosis	1
(*c*) To proceed to India on leave—	
Nervous debility	1
(*d*) To complete normal tour of service after a period of convalescent leave—	
Tachycardia	1
(*e*) To return to duty and to be kept under observation by the Medical Officers of his station—	
Pleurisy	1

Asian Non-Officials.

125. 7,337 cases of sickness among the Asian non-official community were treated by the Government medical staff. The number in 1934 was 7,174.

126. The principal causes of sickness were :—

Malaria	993	Diseases of respiratory system ...	320
Influenza	159	Diseases of digestive system ...	142
Diseases of the skin ...	102	Injuries	68

127. During the year there were 215 deaths, the principal causes of which were :—

Pneumonia	47	Plague	12
Blackwater fever	34	Heart failure	12
Malaria	33		

African Officials (African Civil Service).

TABLE F.

128. Table showing the sick, invaliding, and death rate of African Civil Servants, excluding wives and families :—

	1934.	1935.
Total number of officials resident	121	140
Average number resident	121	140
Total number on sick list	23	88
Total number of days on sick list	100	276
Average daily number on sick list	0·27	0·75
Percentage of sick to average number resident ...	0·22	0·66
Average number of days on sick list for each patient ...	4·35	3·13
Average sick time each resident	0·83	1·97
Total number invalided	1	—
Percentage of invalidings to total residents ...	0·83	—
Total deaths	2	—
Percentage of deaths to total residents	1·65	—
Percentage of deaths to average number resident ...	1·65	—
Number of cases of sickness contracted away from station	No	record.
Number granted local sick leave	—	—
Average number of days on sick leave for each patient granted sick leave	—	—

The comparatively high rate for the average number of days on sick list for each patient is accounted for by three officials who between them were off duty for 76 days.

129. The most common diseases were :—

Malaria ...	27	Neuralgia ...	4
Local injuries ...	11	Myalgia ...	4
Conjunctivitis ...	5	Influenza ...	4
Tonsillitis ...	4		

SECTION III.—HYGIENE AND SANITATION.

(A) General Review of Work Done and Progress Made.

(1) PREVENTIVE MEASURES.

(a) Mosquito and Insect-borne Diseases.

130. *Malaria.*—In Uganda the planting of swamps for the suppression of mosquito breeding falls into two classes:—

(*a*) the afforestation of papyrus swamps in which the dominant species present is *Cyperus papyrus;*

(*b*) the afforestation of wet weather marshes in which the dominant vegetation consists of various grasses of which *Imperata arundica* is one of the commonest.

131. Papyrus swamps are generally silted stream valleys and capable of drainage. When it is possible to lay out a drainage system which will cause a definite, even though slow, water flow *Eucalyptus robusta* planted on mounds will grow rapidly. In the rainy seasons the whole area may be flooded but if the drains are capable of removing the surface water after the cessation of the rains the trees thrive and reach 15 to 18 feet in two years. At this stage, provided the drains are kept clean, flooding does not occur, papyrus is disappearing and a ground cover of an umbellifer *Oenanthe palustris*, which is never seen in virgin swamp, is coming in. At about three years, there is little but the tree crop and the umbelliferous floor cover which tends to be replaced later by ferns. In cases where there is a good fall in the valley the main drain cuts out and deepens its channel, forming a free running stream, and the majority of the side drains dry up.

132. It is generally found that there are numerous springs in the sides of the valleys and the drains from these to the main stream have to be kept open. Cases in which the trees have definitely dried up some of these small springs have been noticed.

133. Experiments are now being made in the establishment of indigenous timber trees such as *Chlorophora excelsa* under the gums with a view to the permanent and profitable afforestation of the areas.

134. *Wet Weather Marshes.*—The treatment of these is more difficult and varies enormously in different areas. Drains to deal with both storm water and seepage have to be dug and frequently *Eucalyptus robusta* is planted, on mounds if the areas are very wet, or at ground level if not. The soil is definitely poorer than in the papyrus swamps and growth is much slower. When the drains and trees have begun to have an appreciable effect on the water level in the wet seasons, the trees frequently suffer from drought in the dry seasons. Furthermore, white ants (termites) invade the areas and kill a number of trees. Blanks caused by drought and termites then have to be filled up with a more drought- and termite-resistant tree than eucalyptus. *Cassia siamea* is an excellent species for this work and is not very particular as to the quality of soil on which it has to grow. In some sandy areas *Casuarina equisetifolia* is being tried and in one or two small patches the only tree which will keep alive appears to be *Callitris robusta.* In considerable areas of these wet weather marshes it has been

found possible to establish *Cassia siamea* direct after draining without the previous planting of eucalyptus and, where this is possible, the cost is very much less. Cassia will, however, not stand long spells of really wet conditions.

135. Experiments are being carried out in some of the plantations in this class of marsh also with a view to the establishment of indigenous timber crops by underplanting.

136. During 1935 stump planting with *Cassia siamea*, which was found to be more successful than spot sowing, was tried in seepage areas in preference to eucalyptus, as in dry weather termite damage to the latter is serious.

137. In Tororo, in the eastern planted area, the northern and southern ends, that is those parts lying beyond the railway line to the north, and between the telegraph line to the west, and the railway line to the east, respectively, 86 acres altogether, were abandoned. Eighty-one acres were planted; in the aerodrome area, 31 with casuarina and 18 with cassia; in Turukuru area 15 acres with cassia; and in the former area four acres of cassia and nine of casuarina, and in the latter four acres of cassia which had failed in 1934 were replanted. In that portion of the Turukuru area which was planted in 1931 and 1932, the trees were thinned out, and blanks due to fire were filled up. At the same time, drains no longer required were filled in.

138. At Soroti, 37 acres, including 15 acres which had failed in 1934, were planted with cassia. In the older plantations thinning was carried out and unnecessary drains filled in.

139. At Lira, 49½ acres were planted, 20 with eucalyptus, the remainder with cassia. The older plantations were thinned out where necessary.

140. At Mbale, beds of cassia and eucalyptus were prepared to plant up an area of 64 acres near the railway station which had been decided upon, and which will be planted in 1936.

141. The above information on swamp planting has kindly been supplied by the Conservator of Forests.

142. At Jinja, a further area of 285 yards of lake shore to the east of the pier was reclaimed, but the land behind this still requires to be filled up, as after heay rain water lies in the grass and in the hippo tracks. In addition, small bays between the Ripon Falls and the Nile Bridge were cleared and revetted with stones, and holes in rocks which formed breeding places were cemented.

143. At Soroti, the levelling and filling in with rubble of drains leading from the station was continued, while at Serere 1,000 yards of anti-malarial drain, some of it fubbled, was completed in the agricultural experimental station. This drain caused the drying out of a swamp three-quarters of a mile from the European quarters, and is said to have controlled the mosquito nuisance to a remarkable extent. At Soroti the land is comparatively flat and the soil sandy. As a consequence the storm water washes away more and more of the banks of the earth drains running from the residential quarters to the swamps, forming a wide channel in which the normal flow is a mere trickle which leaves stagnant pools in foot-marks and other depressions. These pools were found to be breeding places of anopheline mosquitoes. The sides of these drains have been revetted and the whole completely filled with rubble, which is extended beyond the edges. The result is a wide channel filled with stone along which in normal periods the water runs underground, while during a storm the rubble prevents the washing away of the banks. By this means the possibility of breeding places in these drains is eliminated.

144. In rural areas, propaganda for better, and particularly lighter houses in which mosquitoes will not tend to lie up to such an extent as at present, and also for increased cleanliness round huts whereby undergrowth and artificial breeding places such as tins would be abolished, was continued during the year. A slow awakening of the African towards an appreciation of preventive measures is evident.

145. At Soroti, Serere and Lira, all the European officials with their wives and families with the exception of two individuals took prophylactic quinine regularly. Though during 1934 there were 35 cases of malaria among this section of the

community, this number had been reduced to three in 1935. At Lira, quinine has been taken for the last two years, and malaria is not so prevalent as formerly.

146. *Trypanosomiasis.*—Clearings at all scheduled river crossings and landing places in sleeping sickness areas were maintained by the Provincial Administration, and were inspected by Administrative and Medical Officers periodically. The inhabitants of the infected areas were examined once or twice in the year.

147. On the River Koich in the West Nile, the fly density is comparatively low, and cases are probably being infected by quite a small number of flies. Along this river the experiment of hand catching in blocks of bush cut off from each other by large clearings is in progress. At the commencement in August, each of the six boys engaged in one such block captured about 100 flies per day, but by the end of the year the number had dwindled to about 20. In all over 5,000 had been caught. It is hoped that hand catching will either eliminate the tsetse from the block altogether or else reduce it to such small numbers that the fly will not be able to maintain itself. Trapping has not been of much use in this area.

148. In connection with the outbreak near Terego, protection of the population at risk by the injection of two grammes of Bayer 205 is being tried. The method is based upon recent work of Dr. H. L. Duke at the Human Trypanosomiasis Institute at Entebbe, on the prophylactic value of this drug. It is hoped that by sterilising the peripheral blood of all members of the population, re-infection of the fly will be prevented, so that when the present infected fly die out a clean population in contact with clean fly will be left.

149. In Madi, the experiment of planting cotton and food crops along the banks of the rivers from the water's edge to a minimum depth of 200 yards from the bank was tried. Crops such as bananas and muhogo which might provide shelter for fly were forbidden. By the gradual extension of these plots it is believed that the banks of the rivers in the occupied areas will be gradually cleared completely of bush and the fly driven back. It will be necessary, however, to observe the effect of these measures on the volume of water in the streams, and if there should be signs that the rivers are drying up, it will be necessary to adopt other methods of tsetse eradication.

150. In Gulu, expansion of the Acholi into new areas is considered essential, but before this can be permitted an entomological survey of the areas to be occupied will be necessary.

151. In the Lake Victoria area, no further case infected with *T. rhodesiense* was discovered, but the measures to control immigration detailed in previous Reports must remain in force. In parts of this area fly-traps and pupæ shelters are of great service in reducing the numbers of fly. A description of the shelters will be found in Appendix II.

152. *Lake Edward-George Area.*—It was mentioned in last year's Report that Mr. Chorley considered that the various gorges which were fly infested made ideal places in which to trap, but that before this could produce good results the native staff engaged on sleeping sickness work required further training. Early in 1935, two trained boys were posted to this area. On their arrival, in one gorge, the fly rate was 11 per boy-hour. Traps as recommended were constructed, and at first caught flies in considerable numbers. Towards the end of the year, however, none were caught, but the rate had been reduced to two per boy-hour. The position in this area is considered satisfactory.

153. The construction of the Fort Portal-Bwamba road made it necessary to to carry out a survey of the proposed route to find out the distribution of tsetse fly. This was done by the Entomologist in September, during which month conditions were rather dry. Between Mile 19 and Mile 20 two *G. pallidipes* were taken, but *G. palpalis* were not found until the Bwamba forest section was reached, and then only sparsely. *G. fusca*, however, appeared to be widely distributed in the better watered area between Miles 33 and 39. No *G. morsitans* were captured. The Entomologist considered that the existing clearings were adequate with the exception of one at Mile 34 which required extension, but that a new clearing at Mile 34·72 would be necessary. A new survey during or immediately after the rains will be necessary.

154. *Yellow Fever.*—During 1935, further tests on blood sera collected in Uganda were performed by the Rockefeller Foundation Laboratory in New York with the following results:—

Place.	Age.	Number of sera satisfactorily tested.	Number showing protection.
Aringa	7—15	20	0
	20—55	30	0
Arua	8—11	25	0
	20—60	25	1
Masindi	8—15	25	1
	20—50	25	0
Ajumani	8—16	17	0
	17—50	29	0
Moyo	8—10	19	0
	18—35	29	1
Kitgum	8—12	20	0
	17—45	30	3
Gulu	8—10	21	0
	20—60	29	0
Lango	8—12	24	0
	18—30	30	1
Kibiro (Bunyoro)	9—58	8	0

155. Altogether since 1933, 564 sera have been tested and 16 have been found to have protective properties. The persons showing protection have come from West Nile District (4), Toro (2), Kigezi (2), Madi (1), Kitgum (3), Bunyoro (2), Lango (1), Bugwere (1). Particulars of the two cases from Bunyoro were obtained, and are as follows:—

(1) The case from Masindi was that of a boy born in 1920 at Kiryandongo, 35 miles east of Masindi. He had never left Bunyoro in his life. As a child he had yaws, and at the age of four suffered from an illness with jaundice and vomiting lasting on and off for six weeks. There was severe headache and pain in the chest, but the boy's father cannot remember whether the illness was accompanied by fever.

(2) The case from Kibiro, on the shore of Lake Albert, was an adult fisherman who was born at Kibiro where he had spent his whole life except for occasional visits to Hoima. He remembers no illnesses except smallpox and syphilis.

156. These results make it possible that yellow fever of the rural type has been endemic over a wide area of Uganda in the recent past and as no persons with protection have been discovered as yet in Kenya or Tanganyika Territory, Uganda appears at present to be the easterly limit of the endemic area. Since there is a grave danger of its spread in Africa and to other countries particularly by aeroplane, this subject received considerable attention at the Second Pan-African Conference held at Johannesburg in November, 1935. The Deputy Director of Medical Services was the delegate from Uganda, and Dr. F. L. Soper, who has been working in South America with the Rockefeller Foundation, which carried out the mouse protection tests, attended to explain the position as regards the disease. The latter visited Uganda after the Conference to obtain an idea of the type of country in which positive protection tests were being found. In view of the findings in South America, and of the resolutions of the Pan-African Congress, it is proposed to investigate fully the position with regard to *Aedes aegypti*, which is known to be present in all the larger stations of the Protectorate. Towards the end of the year, viscerotomes were sent to Arua and Gulu, but no material for histopathological examination have yet been received. As soon as they arrive from England more of these instruments will be issued. The examination of liver tissue obtained by the use of the viscerotome will, it is believed, prove the presence or absence of yellow fever in Uganda.

157. *Plague.*—The increase in the number of cases of plague during 1935 is indicative of the fact that the lower incidence of the past few years was rather the result of a decline in the epidemic wave than due to any preventive measures which had been put in force. It had been hoped that the decline was due to the introduction of better methods of disinfesting huts which were advocated by Sir Edward Thornton in 1930. As a result of his advice teams were organised consisting of a European Sanitary Inspector and African Sanitary Orderlies who immediately on receipt of the report of a case of plague went out to investigate. If the diagnosis of plague was confirmed all huts in the neighbourhood were gassed with cyanogas to kill off rodents. This method is now believed to be of doubtful value as in the first place the Entomologist has shown that the cyanogassing of huts may leave 25 per cent. of the rat

population untouched, and in the second, in spite of considerable improvement in the methods of gassing, the incidence of plague in many districts increased. The introduction of cyanogas had, however, at least one good result in that the African has shown greater readiness to report cases than in the past, when the usual method of control was to deroof the huts in which cases occurred.

158. In Busoga, 2,083 huts and 2,228 granaries were gassed using 6,000 lbs. of cyanogas, costing Shs. 7,660, with the result that 490 rats were found dead, an average of 0·11 rats per hut or granary. As plague continued to increase during the year, the Native Administration in November ordered that all houses and granaries were to be unroofed under the direct instruction of Muruka Chiefs. 13,976 huts were dealt with, and 170,684 rats killed, an average of 12·2 rats per hut. As a result of this measure, the incidence of plague in Busoga dropped rapidly. It is noteworthy that in one area the Chiefs on their own initiative took off the thatch and burnt it.

159. Throughout the year Medical Officers addressed native gatherings with a view to the better protection of rat-attracting material from rats, the daily removal and disposal of rubbish, and the maintenance of a cleared area round each hut. It is believed that the most hopeful method of eradicating plague in the effected areas lies in the improvement of rural sanitation and the replacement of the present hut by better houses in which the rat can find no harbourage and its contact with man is reduced to a minimum. This view is borne out by an occurrence in the Eastern Province during 1935. In the Bukedea County of Bugwere there was a severe epidemic of plague in the area immediately adjoining the Bugwere-Teso boundary. On the Teso side of the boundary, a system of inspection by African Sanitary Orderlies who went from compound to compound insisting upon the clearing of all undergrowth and the daily disposal of rubbish had been instituted. Though it may have been coincidence, it is nevertheless a fact that in the area so controlled only three cases of plague occurred, and as these were very close to the boundary it is possible that they were infected through visiting friends in Bukedea County.

160. *Relapsing Fever.*—The anti-tick spray mentioned in last year's Annua, Report was tested at one of the Saza gaols in Masaka District. The District Medical Officer reported that the spray definitely killed ticks with which it came into contact, but that it was difficult to reach them in the deep crevices of old buildings. It is necessary to tar all such buildings so that the crevices of roof timbers and walls are filled up before spraying is carried out.

(b) Epidemic Diseases.

161. *Cerebro-Spinal Meningitis.*—Instructions were issued to Chiefs that houses in which cases occurred should be evacuated, and temporary grass shelters being provided for each individual, and that they should then be deroofed in order to allow the sun to disinfect the interior. Before the roofs were returned, permanent vents under the eaves were to be made. In the Belgian Congo a vaccine both for prophylaxis and treatment has been in use since 1934, and it is intended to send a Medical Officer early in 1936 to report on the efficacy of these methods.

162. *Smallpox.*—Early in 1935, the attention of Administrative and Medical Officers was drawn to the fact that the number of vaccinations done in recent years was so small that a large percentage of the population were unprotected against smallpox, and that although the country had been free of the disease for 15 years, in these days of easy communication with foreign countries the possibility of its introduction was great. Intensive vaccination campaigns were strongly recommended, but in the absence of any apparent imminent danger considerable apathy was encountered. The Provincial Commissioner, Northern Province, however, expressed his approval of the proposal, and a Sanitary Inspector was sent up to commence a vaccination compaign. During May and the following months, 27,078 persons out of a population of rather over 30,000 in Madi, 62,426 out of a population of about 70,000 in Gulu, and nearly the whole population of the West Nile District were vaccinated under his supervision. The percentage of successful results was over 90.

163. In April, a Muganda, returning from a pilgrimage to Mecca, managed to escape inspection at Mombasa and after travelling up by train from the coast was found near Kampala suffering from smallpox in the late pustular stage. He was promptly isolated, all contacts vaccinated and kept under strick surveillance, vaccination in and around Kampala was commenced, and vaccinators posted on the roads leading out of Kampala to vaccinate all persons entering or leaving the town. Fortunately no further cases occurred.

164. On Christmas Eve, an Indian child who had come from India was taken off the train at Jinja, where she spent some hours in the bazaar and then went to Kampala by road. On the following day she was discovered to be suffering from smallpox. She was immediately isolated and as far as possible all likely contacts vaccinated and isolated both at Kampala and Jinja, but in spite of this further cases in the Kampala district have since occurred. The introduction of an infection so difficult to control as smallpox amongst a population very inadequately protected made this Department at the end of the year extremely apprehensive of a serious epidemic, except in those parts of the Northern Province, where wholesale vaccination was performed.

165. The following table gives the number of vaccinations which were performed in addition to those in the Northern Province enumerated above:—

Province and District.	Total.	Successful.	Modified.	Failed.	Unknown.
Buganda Province.—					
Entebbe District	11,062	4,473	144	155	6,290
Mengo District	15,505	14,114	3	31	1,357
Mubende District	4,815	2,429	403	951	1,032
Masaka District	4,486	1,992	384	565	1,545
TOTAL ...	35,868	23,008	934	1,702	10,224
Eastern Province.—					
Busoga District	29,929	5,336	1,759	3,173	19,661
Bugwere and Bugishu Districts ...	11,906	4,620	3,032	2,890	1,364
Budama District	7,390	3,239	3,091	963	97
Teso District	6,469	5,502	451	223	293
TOTAL ...	55,694	18,697	8,333	7,249	21,415
Western Province.—					
Ankole District	2,139	484	316	432	907
Toro District	12,941	10,236	...	1,670	1,035
Kigezi District	456	129	39	185	103
TOTAL ...	15,536	10,849	355	2,287	2,045
Northern Province.—					
Bunyoro District	35,764	9,581	2,486	2,244	21,453
Chua District	4,650	1,830	1,095	1,465	260
Gulu District	395	176	44	49	126
Lango District	5,253	779	585	1,458	2,431
TOTAL ...	46,062	12,366	4,210	5,216	24,270
GRAND TOTAL ...	153,160	64,920	13,832	16,454	57,954

(c) Helminthic Diseases.

166. During 1935, no special preventive measures to combat helminthiasis were taken, but propaganda directed towards the provision of latrines attached to native houses, schools, factories and ginneries was continued. Several Medical Officers commented on the fact that the use of latrines was spreading with a consequent diminution in the contamination of the bush. It is hoped that as soon as the adoption of latrines in any district justifies a mass anti-helminthic campaign, this will be carried out.

II. GENERAL MEASURES OF SANITATION.

167. A water-borne sewage scheme for the commercial area of Kampala township, together with the institution of the double bucket system in the residential part which will not at first be included in the scheme, was decided upon, and the work will be commenced early in 1936. In Tororo, the sanitation of the railway area, which has always been unsatisfactory, is also to be changed to water-borne sewage. Otherwise, the conservancy methods remain much as in previous years. In some of the minor townships a bucket system of nightsoil disposal has been substituted for pit latrines. At Lugazi Sugar Factory the installation of a water-borne system of sewerage is under consideration. Elsewhere the use of deep pit latrines remains the usual system of sanitation at ginneries, factories, etc.

168. During the year, experiments with two types of latrines were in progress. At Kiryandongo dispensary in Bunyoro, a latrine 20 feet deep lined with petrol tins was made for the staff. Common salt added weekly is said to assist absorption. Owing to the non-absorbent nature of the soil, this filled up rapidly. A second one was dug at Terego in the West Nile where the soil is of a sandy nature, and is still under trial.

169. A Lang earth-borer was purchased during the year; with this all the latrines at the Welfare Exhibition, Mbale, were dug. In ordinary murram, a depth of 20 feet can be reached in about 60 working hours; if rock is struck, progress will not be so rapid, but with the assistance of the chisel attachment, even rock can be penetrated.

170. A pipe-line water supply for Entebbe and Mbale is to be provided in the coming year. Water supplies in rural areas received a good deal of attention during 1935, and in many districts, notably the West Nile, Teso and Busoga, new wells were sunk, and existing supplies improved by protecting them from contamination. The population has shown its appreciation of a clean and pure supply by journeying long distances to draw water from these sources.

III. SCHOOL HYGIENE.

171. Most of the larger, and a few of the bush, schools throughout the Protectorate were inspected by Medical Officers, in many instances more than once, and reports on sanitary defects were sent to the school authorities. Though it would be idle to pretend that in most schools hygienic conditions are satisfactory, a slow improvement is taking place. The main defects are overcrowding, insufficient light and ventilation, and the absence of sufficient and proper latrine accommodation. Dormitories are in many instances grossly overcrowded. In one school 9 square feet per child (8—12 years old) was all the space available. It is proposed to introduce regulations in respect of hygienic conditions in schools either under the Public Health Ordinance or the Education Act. In some districts, routine inspection of school children was carried out, treatment being given where necessary by the examining officer. A great deal of preventable disease occurs among children, and by both propaganda and treatment in child welfare and school clinics every endeavour is being made by the medical staff to raise the standard of their health. Reports of medical examination indicate that there is a considerable and it is believed increasing amount of trachoma among school children. Treatment of this very infectious disease is difficult as schools are seldom within easy access of treatment centres, and the condition requires prolonged and expert attention. The importance of the disease is being brought to the notice of Native Authorities by talks to Chiefs and their advisers, and it is hoped to reduce the incidence of the disease.

IV. LABOUR CONDITIONS.

172. During the year, the draft Rules dealing with the housing and feeding of labour were issued and the porters working on the new Fort Portal-Bwamba road were housed and fed in accordance with the new conditions laid down. The original estimate for the cost of construction of the road had to be considerably increased, but the Director of Public Works, and the Provincial Commissioner, Western Province, have both reported that the increased expense has been justified by the improvement in the health and efficiency of the labour force.

173. Attention was again directed during the year towards the care of labour in ginneries and other factories. Though conditions in many cases still leave much to be desired, an attempt has been made by ginnery owners, particularly in the Eastern Province, to improve the housing of their African staff and to provide more adequate sanitary accommodation. In a number of ginneries permanent labour lines will probably be erected during 1936. Regulations governing the housing of native labour employed in ginneries will be found at Appendix I.

174. Many of the camps occupied by the road maintenance gangs of the Public Works Department were improved during the year. Particular mention must be made of the camp immediately opposite the Welfare Exhibition at Nakaloke which was rebuilt on model lines, and it is hoped that in the near future labour camps both of Government Departments and employers of labour will conform to this minimum standard.

V. HOUSING AND TOWN PLANNING.

175. The Asiatic bazaars still require considerable supervision, while the over-building of plots and overcrowding of dwellings to which attention was drawn in last year's Report still exist. The building rules for any new dwellings were, however, strictly enforced during 1935, and close supervision of the minor as well as the major townships was continued. In several of the bazaars the drainage was improved and extended, but water supplies remained unsatisfactory, and in many places inadequate.

176. There is a considerable slum area in Jinja lying between the bazaar and the lake shore. Most of the occupants of the hovels in this locality are immigrants from other parts of the Protectorate or from adjoining territories. They have now been given twelve months' notice to evacuate the area and it will be necessary to make provision for their rehousing. Two schemes were under consideration at the end of the year, the first providing Government lhandies where rooms could be rented, the second setting aside a properly surveyed area in which residences conforming to a minimum structural standard can be built. The latter scheme is probably the most suitable for African conditions.

177. The improvement particularly as regards lighting and ventilation in the type of house being built by the peasant in the West Nile district to which attention was drawn in last year's Annual Report was maintained. In Teso also the new health overseers have had a considerable measure of success in persuading the people to put in ventilations under the eaves, and to provide themselves with latrines. The interest shown by all classes in the model dwellings at the Health Exhibitions in Kampala and Mbale is an earnest that the lessons taught by these exhibitions will be eventually put into practice.

178. A committee has been sitting for the past few months to draw up new Building Regulations which will be enforced in whole or in part all over the Protectorate. Unfortunately the removal of existing slum conditions in many of the bazaars and trading centres can only be achieved gradually by application of the nuisance clauses of the Public Health Ordinance. There is, however, an undoubted improvement in the cleanliness of townships which must be attributed to the greater supervision which can now be exercised by the Department owing to the increase in the staff of Sanitary Inspectors.

VI. FOOD IN RELATION TO HEALTH AND DISEASE.

179. A number of cases of scurvy again occurred in Lango. The Senior African Medical Assistant at Moyo in the Madi District which borders on the Sudan, also reported that a number of children there exhibited signs of vitamin C deficiency. Most Medical Officers have commented from time to time on the inadequacy of the native dietary, and in conjunction with the Agricultural Department efforts are now being made to add more variety to the diet of the African.

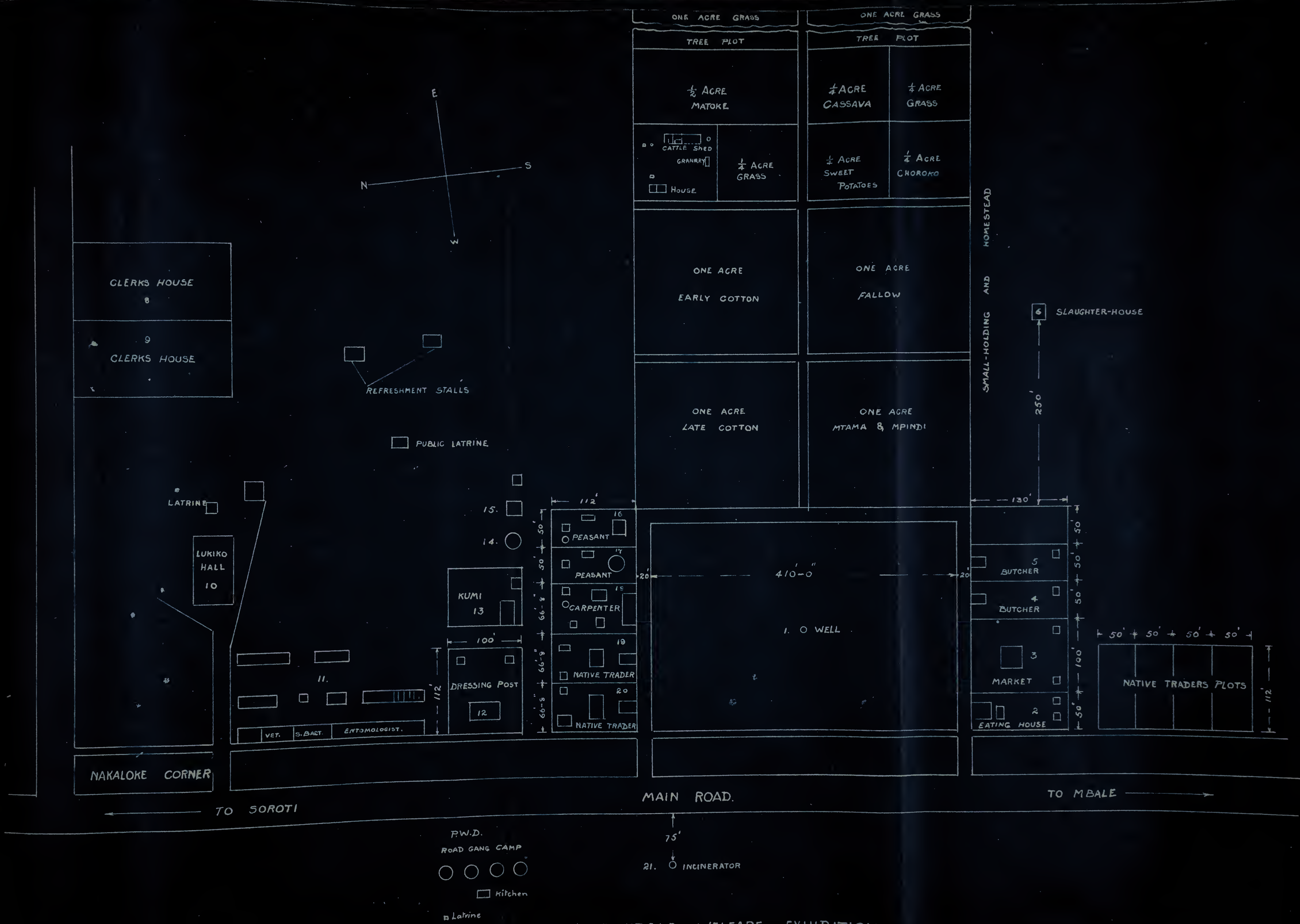
180. A committee has been set up to study soil conditions in the Protectorate, and to lay down a general plan of agricultural development for the country.

181. Dr. L. J. A. Loewenthal, District Medical Officer, Soroti, reported that about 30 per cent. of children in Teso showed vitamin A deficiency at the end of the dry season.

182. Medical Officers gave attention to the supplies of milk of many of the larger towns and evidence collected indicates that the milk supplied even to European and Asiatic consumers is produced under extremely unsatisfactory conditions. Some improvement in conditions under which milk is retailed is reported from Jinja, but no milk sold to-day anywhere can be considered safe for human consumption until boiled.

183. In some of the markets under Native Administration control native food stuffs are still exposed for sale on the ground where contamination is impossible to prevent. In others, however, rough benches have been constructed for the laying out of commodities, and over some of these grass sheds have been erected as a protection against sun and rain.

184. Many of the cattle slaughtered, particularly in the Western Province, are infected with *T. saginata*. At Fort Portal, 709 of the carcases in the market were found to be so infected, and condemned. At Kampala, out of 4,154 Karamoja cattle,



SITE PLAN OF MBALE WELFARE EXHIBITION.

33 carcases were infected with *taenia*, and in addition 15 were condemned as tuberculous. The latter disease is much rarer in zebu than in Ankole cattle. Of other cattle slaughtered in Kampala, six were infected with *taenia* and one with tuberculosis. The figures for Kamala have been kindly supplied by the Director of Veterinary Services. In the districts where no inspection is possible, much infected meat must be eaten. As reported elsewhere, there were outbreaks of anthrax in Ankole and Masaka districts due to the eating of meat from cattle who had died of that disease.

B. Measures Taken to Spread the Knowledge of Hygiene and Sanitation.

MBALE WELFARE EXHIBITION.

185. The Mbale Welfare Exhibition held at Nakaloke from 13th November to 19th November, may be described as a model exhibition, because every section had a bearing on the health of the African and because every aspect of his well-being was catered for in the exhibits, demonstrations and lectures which constituted the undertaking. This exhibition was the second of its kind in Uganda, that at Kampala in May, 1934, being the first.

186. When it was decided to hold an exhibition in the Eastern Province, the most suitable locality was considered to be at or near Mbale, as it is a large and populous district, centrally situated. Eventually, Nakaloke, five miles from Mbale on the Soroti road, the headquarters of the Saza Chief of Mbale County, was selected, as this site lent itself admirably to the purpose in view—an exhibition of which the nucleus was to be a model and permanent native village, which could remain as an example after the close of the show, while ample land was available for a model agricultural holding, which was an important part of the scheme. This ambitious project was only possible with the help of the Native Administration who, owing to the enthusiasm of Mr. A. E. Weatherhead, C.M.G., the Provincial Commissioner, Eastern Province, chairman of both the general and executive committees, and later of Mr. C. L. Bruton who succeeded him, were willing to assist with considerable financial aid.

187. The opening ceremony was performed by the Governor who was accompanied by the Provincial Commissioner, Eastern Province. After the latter had made a short speech of welcome in which he remarked that, though the exhibition had been a costly undertaking, money spent on improving native health and living conditions was well spent, His Excellency, who first commented on the excellent road camp of the Public Works Department close to the exhibition site and hoped that such camps would soon be general, went on to say that simplicity and cleanliness were the main points stressed everywhere. There was something to be learnt by all, both rich and poor. Much could be done to improve housing with a little mud and a bucket of whitewash, and the man who considered that he needed no improvements was the man who was too lazy to make them. Though the whole village would turn out to kill a leopard or lion who stole a cow or goat, few were willing to hunt down the rat which by carrying plague caused more trouble than wild animals. He hoped that all would observe the lessons of the exhibition and listen carefully to the demonstrators.

188. The following is a description of the exhibition. (The numbers in the text refer to the numbers of the various buildings in the attached plan).

189. The exhibition consisted of a model village ranged round a green in the middle of which was a well. This village will remain as a permanency. To the east was a model small-holding, and to the north other exhibits housed in temporary buildings and the Baby Show, which was held in the Lukiko Hall.

(*1*) *Village Well.*—This, which is 40 feet deep, is in the middle of the square, conveniently situated for all the inhabitants of the village. As it is lined with concrete cylinders it will be an easy matter to increase the depth should the need for a greater supply arise. The water which is of good quality is raised to the surface by a rotary pump. A cement cover protects the well from surface contamination.

(*2*) *Native Eating House.*—This was actually in use during the exhibition. It is built in permanent materials, and showed how food can be cooked and served free from contamination and in an atmosphere of strict cleanliness. Arrangements were demonstrated for washing the dishes and utensils, and a latrine was provided for the use of the customers.

(3) *The Market.*—This is also in permanent materials with a corrugated iron roof supported by concrete pillars, a concrete floor, and concrete slabs on which food for sale is laid out. As a water tank is attached, cleaning is easy. This market is for the sale of all native produce, except meat.

(4) *and* (5) *Butchers' Shops.*—These, which were open for the sale of meat during the period of the exhibition, demonstrate hygienic methods of storing meat in specially constructed fly-proof stock rooms allowing adequate ventilation and a through draught to keep the atmosphere fresh. As a result, there are no flies and the meat is kept cool. A main feature is the cleanliness of the blocks, the utensils and the butchers themselves. Meat is sold through the window, so that the shop cannot be soiled by customers entering it.

(6) *Slaughter House.*—This is a permanent building, the floor and walls being faced with smooth cement and therefore easily kept clean. There are two rain storage tanks, which should ensure an adequate supply of water. Blood and waste are disposed in two pits, each 20 feet deep and three in diameter, with cement covers to render them fly-proof. These are used alternately to prevent overworking. Manure is buried some distance from the slaughter-house or utilised on the small-holding.

(7) *Agricultural Small-Holding.*—The holding, which is of eight acres together with a half-acre plot for growing trees, is worked by one man with the help of his wife and children. The house, cattle kraal, implement and calf shed, kitchen, latrine, and granary occupy a quarter of an acre. Six cattle are housed in a covered shed to prevent the rain from spoiling the valuable manure. The implement shed contains a plough, cultivator, and two easily made sledges for carrying manure and farm produce. Six acres, three of which are always resting, are set aside for economic crops, and there are also plots for food crops. The plots which are resting are planted with grass to help restore fertility. The house is a two-roomed structure with smooth mud walls and a step-thatched roof. The rooms are large with ample light and ventilation provided by a space eight inches deep round the top of the outside walls, and by windows which can be closed with shutters. The house is limewashed inside and out. The granary and chicken house are raised off the ground and rat-proofed.

(8) *and* (9) *Permanent Houses.*—These are two two-roomed houses, with kitchen, store and latrine, built by the Native Administration for the Saza Chief's clerk.

(10) *The Baby Show.*—This was held on the first three days of the exhibition. There were about 200 babies on the first day, 280 on the second, and 160 on the third. It had been intended to confine the entrants on the first two days to babies who had attended at Government welfare clinics, and on the third day to those from Mission centres, but a considerable number who had not attended any clinic presented themselves for competition. That this show was such an outstanding success was due mainly to Miss A. M. Behan and Miss S. Smith, the Nursing Sisters at Mbale, who not only assisted the judges at the show itself, but helped to make such a show possible by their hard work in the weekly welfare clinics held at Mbale throughout the preceding twelve months. One of the first prize winners on the third (Mission) day, was a baby from the Teso Leper Settlement whose mother was an advanced leper, but who had been segregated and cared for by Miss Laing, the missionary in charge of the Church Missionary Society leper work in Teso. As first prize in each class, cots made from packing-cases and painted, costing about Shs. 15 each, were given, and other prizes consisted of bedding and clothing. One of the rooms of the building was fitted up as a two-bedded maternity ward. It was hoped that the air of cleanliness and comfort of this, so different from filth and squalor of the huts in which many babies are born, would attract women to hospital for their confinements.

(11) *The Stalls.*—The trade exhibits included farming and dairying implements, tobacco, etc., while the Elgon Technical School displayed many types of furniture suitable for African homes.

The Veterinary Department showed a model byre for two cows with a pen for the calves. The upper halves of two opposite walls were left unplastered, allowing adequate ventilation while the retention of the wall poles made the building leopard proof. Model methods of milking, and common diseases of meat such as tuberculosis and helminthic infections, were also demonstrated.

The bacteriological exhibits were arranged in two sections, the first of which was devoted to food-stuffs, their dietetic value and the prevention of contamination by fly-proof covers. The second section was devoted to helminths, their life history and modes of infection.

The Entomologist's demonstrations were arranged in three sections. The first dealt with plague, and showed different types of rats alive and dead, fleas, rat-attracting materials and anti-rodent measures. The preference of rats for old and dirty houses, and the method by which cotton is carried from the floor of a house to the roof was demonstrated in an ingenious manner. Rat-traps of various kinds, poisons, cyanogas and cyanogas pumps, rat-proof bins for food, and rat-proof show-cases for shops were demonstrated.

The second section showed mosquitoes and their life history, stress being laid on their preference for dark houses.

The third section was concerned with house flies, tsetse flies, bugs, ticks and lice, together with methods for their control.

Great interest was shown by the African visitors in the veterinary, bacteriological and entomological exhibits, and the demonstrators were kept busy both explaining the various points of interest in their sections and answering questions.

(*12*) *The Dressing Post.*—This, which is intended as a permanent post for the treatment of minor ailments was built in *pise de terre.* This method of building, which is simple, cheap and very effective was demonstrated throughout the period of the exhibition. A feature of the building was the method of supporting the roof on the veranda poles instead of on wall plates, so preventing white ants which might get into the wall, from reaching the roof timbers.

(*13*) *Cob House and Leper Section.*—This house, which was built by young lepers from the Teso settlements, illustrated another easy method of building. Various occupations for lepers such as bead-work, sowing, knitting, mat-making and carpentry, as well as the benefits of early treatment, were demonstrated by Miss Laing, who was in charge of this section.

(*14*) *Model House for Tuberculous People.*—A well-ventilated house for a sufferer from phthisis was shown.

(*15*) *Model Maternity Hut.*—This represented a native house in which a mother might be confined under the most favourable conditions, and demonstrated the advantages of cleanliness in child-birth. A woman with a baby a few days old occupied the bed and cot for the period of the exhibition. The midwife attached to Mbale Hospital was in charge of this hut, and demonstrated the exhibit to visitors.

(*16*) *Model Rectangular Hut.*—This house was built entirely with materials readily available to the peasant. There were two doors and a window, but even when these were closed adequate ventilation was provided by a space round the top of the walls. The construction of the walls makes it difficult for rats to lodge in them, and the step-thatching, which is easily repaired, minimises the possibility of their lodging there. At the back were a model kitchen, store, bathroom and latrine.

(*17*) *Model Round Hut.*—This was built on the same lines as the rectangular hut, but there was no window, light and ventilation being supplied by a space at the top of the walls under the eaves. A model kitchen, store, bathroom and latrine were attached.

(*18*) *Carpenter's House and Workshop.*—This building has mud walls, but a corrugated iron roof, and cement floors. To the right is a showroom. Close to this house was shown a model rat-proof granary.

(*19*) *and* (*20*) *Permanent Shops with Houses attached.*—The model shops with separate living quarters were built to the north of the village. On one plot is a two-roomed, and on the other a three-roomed house both built in cement blocks, together with a store, kitchen, bathroom and latrine. As the African who keeps a shop of this description usually has a servant, boys' quarters are provided.

(*21*) *Model Incinerator.*—This is across the main Mbale road, placed there because the prevailing wind blows from the village to the incinerator, which is designed to burn the rubbish of the village.

190. The Public Works Department labour camp was built according to the plans laid down for labour camps. It is an excellent example showing huts, latrines and kitchen as they should be.

191. During the period of the exhibition there were continuous demonstrations of *pise de terre* building, cob-building, and step-thatching, while Africans especially trained for the purpose were in attendance to explain all the exhibits. All the latrines which were made by the boring plant described elsewhere were 20 feet deep, with cement covers, and the advantages of using latrines was explained by a demonstrator stationed at each. There were a large number of posters explaining every subject with which the exhibition dealt, but as most of the visitors were illiterate, the main work of propaganda fell on the demonstrators. It was estimated that between 30,000 and 40,000 persons visited the exhibition.

192. All the temporary and semi-permanent buildings were erected by Mr. G. Gillanders, Sanitary Inspector, and Mr. J. L. Wykes, Overseer, Public Works Department, was responsible for the permanent buildings. To these two officers a very large part of the success of the exhibition was due.

193. Considerable sums of money were spent by the Native Administration on the permanent buildings which formed an important part of the exhibition, and it was satisfactory to find that all of them had been taken by Africans at rentals which provide a reasonable return on the capital expended.

194. During the year, a unit portable lantern was ordered, together with film slides dealing with mosquitoes, diets, and pure water. It is hoped to build up a stock of slides of local scenes dealing with rural sanitation which will be of use to Medical Officers and others who give addresses to native gatherings. As pictures can be shown with this apparatus in daylight, it is believed that it will be of considerable assistance as a means of propaganda.

(C) Training of Sanitary Personnel.

195. During 1935 an Instructor of Hygiene was appointed. The first class for training Health Orderlies, consisting of twelve students, will commence early in 1936 in Kampala. The complete course will occupy two years. During the first year, at the end of which an examination will be held, the student will be taught anatomy, physiology, elementary biology, bacteriology and hygiene. The pay will be Shs. 15 per mensem. If the examination is passed satisfactorily, the second-year student will receive Shs. 25, and will be posted for a period of nine months to work in a district under a Medical Officer of Health. The last three months of the year will be occupied with a refresher course to be held at Kampala followed by an examination. Successful students will then be admitted to the staff as Grade V. Health Orderlies on the scale Shs. 30 to Shs. 45 per mensem, and will be posted for district health work. Those who show promise after a year in a district may be selected for the Senior Health Orderly course which it is hoped will prepare him for an examination under the auspices of the Royal Sanitary Institute. On passing this, the student will become a Grade IV. Health Orderly earning Shs. 50 rising by annual increments to Shs. 70.

196. In the past year Health Overseers were trained in Teso and Busoga, and then attached to Gombolola Chiefs. Their duties are to superintend rural sanitation by insisting on the cleanliness of compounds, the maintenance of cleared areas round houses, and the daily disposal by burning or burial of all household refuse. They also attempted to raise the standard of housing, particularly in the matter of ventilation and the provision of latrines. Considerable success attended their efforts, particularly in Teso. The extension of a similar service to the Mengo district in order to reduce the incidence of plague was approved at the end of the year.

SECTION IV.—PORT HEALTH WORK AND ADMINISTRATION.

197. Not applicable.

SECTION V.—MATERNITY AND CHILD WELFARE.

198. Increasing attention is being given by the Department to maternity and infant welfare in the Protectorate, and in most district hospitals and in a number of dispensaries special clinics, in many cases taken by the Nursing Sister, were operating in 1935. These were very well attended, and many pregnant women and healthy children came up regularly for supervision and, where necessary, treatment. In October, a Muhima woman who gave birth to quadruplets at Kiriandongo, near Masindi, was admitted with the infants to hospital. This is the first recorded case of quadruplets being born in Uganda. All the infants progressed extremely well until they were nearly four months old, when they were all taken ill with acute enteritis due, it is thought, to their being given unboiled milk at night by their mother. Unfortunately, the second, a girl, died. Their weights at twelve days old (when they first came under observation), and at three months were as follows:—

	At 12 days.	At 3 months.
First (male)	3 lbs. 8 ozs.	9 lbs. 12 ozs.
Second (female)	4 ,, 8 ,,	10 ,, 7 ,,
Third (male)	4 ,, 8 ,,	11 ,, 0 ,,
Fourth (female)	3 ,, 12 ,,	8 ,, 14 ,,

The everage weight at three months for African babies is given as 12 lbs 3 ozs. for a boy, and 11 lbs. 14 ozs. for a girl. To the Nursing Sister at Masindi, Miss M. Senior, is due great credit for the care with which she looked after these infants.

199. During 1935, permanent maternity centres were built at Butaleja, Kamuge, Bugembe and Kisolo, but only the last named had been opened by the end of the year. Altogether, apart from institutions in the stations there will be seven rural maternity centres under direct Government control in 1936: Bugembe in Busoga, Butaleja in Budama, Kamuge in Bugwere, Serere in Teso, Kibale in Mubende District, Butiti in Toro, and Kisolo in Kigezi.

200. 18,874 women attended ante-natal clinics during the year. At certain institutions the numbers were as follows:—

	Number.	Attendances.
Entebbe	687	1,418
Mulago	1,195	4,688
Masaka	1,483	10,747
Mbale	666	986
Bugembe	438	2,778
Masindi and dispensaries	550	6,554
Hoima and dispensaries	1,112	8,782
Soroti and dispensaries	1,969	5,516
Mbarara and dispensaries	1,298	1,467
Fort Portal and dispensaries	2,062	4,498

The average number of attendances of each woman at the above clinics was 4·1.

201. Of the women who attended for ante-natal supervision, 988 were confined in hospitals and maternity centres from which detailed results are available. At the same institutions, 352 women who had not attended for ante-natal supervision were admitted in child-birth. The results are compared in the following table:—

	Women who had attended for supervision.	Women who had not attended.
Number of women confined	988	352
Pregnancies resulting in—		
(*a*) Miscarriage	44	69
(*b*) Still-birth	52	50
(*c*) Living child	892	233
Percentage resulting in living child	90·2	66·2

202. Of those who attended for ante-natal supervision and who were confined in their own homes, the results of pregnancy which are known, are as follows:—

Total	1,018	Living child	896
Miscarriage	105	Percentage resulting in living child	88·0
Still-birth	17		

These figures provide a very striking proof of the value of ante-natal supervision.

203. When a careful study of the records at the centres is made it is usually found that it is the woman who attends these clinics irregularly or infrequently whose pregnancy terminates unsuccessfully, and it is gratifying to observe how often women, even those with a history of repeated miscarriage or still-birth who attend regularly, give birth to healthy infants.

204. The following table shows the number of confinements with their results at certain institutions:—

	Confinements, excluding miscarriage.	Still-births.	Living births.	Maternal deaths.
Entebbe	103	5	98	1
Mulago	240	28	212	14
Masaka	359	33	326	10
Bugembe	128	3	125	1
Serere	127	2	125	—
Butiti	70	2	68	—
Totals for the Protectorate	1,502	144	1,358	78

205. 10,653 infants attended welfare centres. This number excludes children who were brought up suffering from definite disease. The following table gives the numbers attending certain centres:—

	Infants.	Attendances.
Entebbe	352	487
Kampala	287	1,040
Mulago	147	905
Mbale	1,851	2,305
Bugembe	305	2,280
Masindi and dispensaries	334	6,492
Soroti and dispensaries	385	1,319
Mbarara and dispensaries	3,013	3,379
Hoima and dispensaries	1,109	5,169
Fort Portal and dispensaries	1,104	2,545

The average number of attendances for each infant was 2·9.

206. Mrs. Hodson, Mrs. Windsor Aubrey and Mrs. Nason worked at the welfare clinics in Kampala during the year, and to these ladies are due the thanks of the Department. We are also very indebted to Mrs. Lutze-Wallace who superintended the Maternity and Welfare Centre at Entebbe. The Nursing Sisters at Jinja, Masaka, Masindi, Soroti, Mbale, Mbarara and Hoima were in charge of the women's and children's clinics not only in the station, but in many cases at dispensaries as well. It is intended to post Nursing Sisters to Kabale, Lira and Fort Portal in 1936.

207. *Report on the Lady Coryndon Maternity Training School by Dr. R. Y. Stones.*—During the year 36 students were in training. Eleven of these, ten of whom were successful, sat for the Certificate of the Uganda Midwives Board.

208. The following patients were admitted to the clinical wards attached to the school:—

Total admissions	520	Infant deaths (including sick babies admitted)	30
Still-births	49	Total confinements	381
Living babies born	308	Instrumental deliveries	60
Born before admission	24	Delivery by Caesarian section	10
Miscarriage	19	Perforation and craniotomy	4
Threatened miscarriage	84	Retained placenta	3
Maternal deaths	14	Other operations	3

209. In the out-patient department, 1,334 expectant mothers, of whom 578 were found to be syphilitic, attended for supervision and treatment, and 795 infants were brought up for post-natal supervision.

210. *Report on the Country Centres.*—

	Confinements, including Miscarriage.	Miscarriage.	Still-births.	Living Children.	Threatened Miscarriage.	Maternal Deaths.	Infant Deaths.	Infant Welfare.	Women who attended for ante-natal supervision. New.	Attendances. Total.	Total Attendances, Out-Patients.
Bushenyi ...	28	2	...	26	...	2	...	187	110	139	1,233
Ibanda ...	20	...	2	20	...	...	...	869	331	867	1,987
Jungo ..	59	3	3	53	1	...	2	386	347	1,014	2,319
Kabasanda ...	59	2	5	52	1	...	3	355	615	2,501	3,731
Kabwoko ...	117	3	3	112	2	...	2	410	615	1,669	3,548
Kabwohe ...	36	...	2	35	...	...	...	474	81	240	1,663
Kako ...	69	3	6	61	11	...	4	467	621	1,366	2,419
Kapeka ...	37	1	1	35	2	...	2	296	346	665	2,089
Kasaka ...	43	1	3	39	6	1	1	289	709	1,166	2,299
Kiboga ...	54	1	5	48	2	...	...	258	272	491	1,847
Kikoma ...	32	1	...	32	...	...	1	569	570	1,122	3,320
Kira ...	7	...	...	7	...	...	...	44	82	228	421
Lutete ...	73	3	3	71	2	...	1	118	619	1,486	2,352
Luwero ...	41	6	1	34	7	...	1	288	427	900	2,177
Mbarara ...	71	1	8	64	2	...	1	987	174	826	3,269
Mityana ...	49	3	2	44	4	2	2	566	745	1,676	3,367
Mukono ...	179	5	18	168	12	3	7	1,688	973	2,662	10,319
Nakifuma ...	117	6	8	103	11	1	1	839	992	2,241	3,971
Namulonge ...	51	6	3	42	9	...	...	357	231	346	1,124
Ngogwe ...	68	3	2	63	2	1	4	302	774	1,800	3,919
Ndeje ...	54	5	3	46	6	...	3	410	747	1,475	3,291
Iganga ...	86	4	1	81	7	2	4	...	225	...	9,813

211. No new centres were opened during the year, as it was considered better to use the available funds for improving existing buildings. New houses for the midwives were built at Nakifuma and Ngogwe, and the centres at Luwero and Kira reconstructed. As a consequence, the latter centre was open for only three months during the year. It was re-opened in October. Owing to lack of support, the centre at Hoima was closed in May. At most of the centres an increased number of confinements took place, and this was particularly the case at Kabwoko, Lutete and Mbarara. In addition, a considerable improvement in the attendances for ante-natal supervision and post-natal welfare took place, due largely to a team consisting of a doctor, a maternity sister and a sister from the general side of the hospital paying periodical visits to the centres, where they examined women and children and where necessary, treated them.

212. Several midwives retired during the year, and a particular loss was the death of Eseza Talabika who died of plague contracted on duty at Ndeje. She obtained her certificate in 1924, and has been working as a midwife ever since.

213. *Report on Nsambya Maternity Training School by Rev. Mother Kevin.*—During the year there were in training 33 students, five of whom sat for and passed the examination for the Certificate of the Midwives Board. The examiners reported a marked improvement in the standard of the candidates, particularly in ante-natal work.

214. The following patients were admitted to the wards attached to the school:—

Total admissions	265
Miscarriages	33
Still-births	20
Living children born	212
Threatened miscarriage ...	30
Other conditions	46
Maternal deaths	5
Infant deaths	Nil.
Total confinements	232
Instrumental deliveries ...	14

Delivery by Caesarian section	1
Perforation and cranioclasm	2
Internal version	6
Retained placenta	8
Placenta praevia	5
Women attending the out-patient department for ante-natal supervision ...	592
Number of attendances (including first) ...	2,218
Children attending Welfare Centre ...	100
Number of attendances (including first)	350

215. Both the ante- and post-natal clinics were well attended, and there was little difficulty in persuading mothers of sick infants to allow them to remain in hospital.

216. *Report on the Country Centres.*—

	New ante-natal cases.	Confinements, including miscarriages.	Mis-carriages	Still-births.	Living children born.	Maternal deaths.	Infant deaths.	Infant welfare.
Kisubi	37	59	2	2	55	...	...	...
Katende	99	84	2	3	79	...	...	38
Bikira	471	130	4	8	118	...	...	...
Mitala Maria	474	150	5	3	142	1	...	40
Nkokonjeru	400	153	12	18	123	6	3	123
Budaka			No record					
Nagongera	68	71	14	1	56	...	...	23
Nyondo	9	36	25	...	11	1	...	11
Kamuli	143	117	3	8	106	...	8	72
Nagalama	236	67	4	15	48	1	..	56
Lwala	184	25	5	5	15	1	1	221
Namilyango	117	49	3	1	45	...	...	194
Gayaza	279	91	2	4	85	...	...	132
Rubaga	133	75	10	1	64	1	1	30
Ngora	148	35	...	3	32	...	...	30
Villa Maria	415	207	...	6	201	1	...	60
Nyenga	286	92	2	3	87	...	1	160

217. Good progress is reported from most of the centres, Bikira, Nkokonjeru, Nagongera, Nyondo, Namilyango, Gayaza and Ngora in particular showing a satisfactory increase in numbers. Only Lwala showed a serious decrease and this was directly due to the behaviour of midwives who have now been replaced. In addition, pregnant women attended much more regularly than had previously been the case, and as a result in several instances conditions which would probably have caused a fatal termination had they not been discovered until labour commenced, were diagnosed early, and the patients sent to hospitals where more skilled assistance was available. Infants, too, were regularly brought up "to be weighed and admired." Altogether 4,316 pregnant women (3,499 new cases and 807 who were first seen during 1934) made 32,848 attendances (an average of seven for each woman), while 1,090 infants were brought up for supervision 3,189 times (an average of nearly three). These figures may be regarded as very satisfactory.

SECTION VI.—HOSPITALS AND DISPENSARIES.

218. The following sums have been spent by the Public Works Department on medical buildings during the year :—

New Works at—	£	*shs.*	*cts.*
MULAGO :—			
Mental hospital—African section, completion of	1,755	0	00
Mental hospital—European and Asiatic section including Attendants' quarters	2,297	0	00
Surface water drainage, completion of	1,116	0	00
Quarters for fifteen students	762	0	00
MASAKA :—			
Quarters for Senior African Medical Assistant	220	0	00
MBALE :—			
Quarters for three Nurses	190	0	00
JINJA :—			
Quarters for Senior African Medical Assistant	220	0	00
HOIMA :—			
Quarters for two Nurses and head-orderly	270	0	00
GULU :—			
Native hospital, completion of	1,200	0	00
Post-mortem room	200	0	00
KABALE :—			
Quarters for Senior African Medical Assistant (not completed)	142	0	00
MISCELLANEOUS WORKS :—			
Medical temporary buildings	475	0	00
Miscellaneous minor works and improvements to buildings ...	566	0	00
Maintenance of buildings	1,291	5	10
	£10,704	5	10

Table G shows medical units, beds, attendances, etc., for the Protectorate by districts, and a list of sub-dispensaries open or under construction in 1935 appears at pages 52 and 54.

Table H sets out details of the activities of the Pharmaceutical Section of the Medical Store for the last seven years.

Table G.—MEDICAL UNITS, BEDS AND PATIENTS BY DISTRICTS.

	BUGANDA PROVINCE.					WESTERN PROVINCE.				EASTERN PROVINCE.							NORTHERN PROVINCE.							UGANDA PROTECTORATE.
	Entebbe District.	Mengo District.	Masaka District.	Mubende District.	TOTAL.	Toro District.	Ankole District.	Kigezi District.	TOTAL.	Busoga District.	Budama District.	Bugishu District.	Bugwere District.	Teso District.	Karamoja. District.	TOTAL.	Lango District.	Bunyoro District.	Gulu District.	Chua District.	Madi Sub-District.	West Nile District.	TOTAL.	
Medical Units.																								
European Hospitals	1	1	...	...	2	...	...	...	...	1	...	...	1	...	...	2	...	...	...	...	...	...	...	4
Asiatic Hospitals	1	1	1	...	3	...	...	...	...	1	...	...	1	1	...	3	1	2	...	...	...	...	3	9
African Hospitals	1	2	1	1	5	1	1	1	3	2	1	1	1	1	1	7	1	3	1	1	1	1	8	23
Sub-Dispensaries	1	8	6	6	21	9	4	4	17	6	3	3	3	4	...	19	4	8	4	2	5	6	29	86
In-Patients.																								
BEDS AVAILABLE:																								
European	7	20	...	...	27	...	...	...	...	4	...	...	3	...	...	7	...	...	...	...	...	...	...	34
Asiatic	4	29	3	...	36	...	...	...	...	6	...	...	2	4	...	12	4	4	...	...	...	...	8	56
African in Hospitals	51	302	127	27	507	40	47	53	140	114	40	20	79	56	6	315	54	81	40	33	36	40	284	1,246
African in Sub-Dispensaries ...	20	...	10	5	35	36	64	69	169	84	32	50	75	34	...	275	40	...	...	2	5	20	67	546
TOTAL ...	82	351	140	32	605	76	111	122	309	208	72	70	159	94	6	609	98	85	40	35	41	60	359	1,882
CASES ADMITTED:																								
European	20	319	...	...	339	1	...	...	1	6	...	...	31	...	...	37	...	...	...	...	...	...	...	377
Asiatic	30	731	16	...	777	6	...	...	6	87	...	...	16	24	...	127	8	26	...	...	...	...	34	944
African	1,074	8,394	2,751	471	12,690	757	1,957	1,010	3,724	3,566	909	841	2,005	1,887	151	9,359	2,381	1,413	696	558	303	1,360	6,711	32,484
TOTAL ...	1,124	9,444	2,767	471	13,806	764	1,957	1,010	3,731	3,659	909	841	2,052	1,911	151	9,523	2,389	1,439	696	558	303	1,360	6,745	33,805
TOTAL NUMBER OF IN-PATIENT DAYS ...	12,120	123,575	43,844	7,540	187,079	9,177	23,685	9,778	42,640	49,226	14,037	6,474	24,346	23,707	1,496	119,286	27,888	26,551	11,623	8,968	9,988	30,650	115,668	464,673
AVERAGE DAILY NUMBER IN WARDS ...	33·2	338·6	120·1	20·6	512·5	25·1	64·8	26·7	116·8	134·8	38·4	17·7	66·7	64·9	4·0	326·8	76·4	72·7	31·8	24·5	27·3	83·9	316·8	1273·0
Out-Patients.																								
Attendances	65,580	370,215	161,781	143,353	740,929	225,916	239,729	118,298	583,943	214,891	102,884	102,606	99,233	241,889	7,447	768,950	191,308	317,638	120,825	73,103	87,869	255,420	1,046,163	3,139,985
Total New Cases.																								
European	423	1,340	16	17	1,796	33	37	28	98	364	138	4	145	49	8	708	38	130	41	9	11	80	309	2,911
Asiatic	1,098	2,180	606	118	4,002	38	94	37	169	1,198	605	41	114	372	11	2,341	277	684	94	55	7	67	1,184	7,696
African	18,560	103,225	34,976	31,675	188,436	75,620	50,480	22,208	148,308	91,094	31,585	43,281	43,703	91,229	3,229	304,121	55,713	41,462	37,567	18,848	47,313	54,111	255,014	895,879
TOTAL ...	20,081	106,745	35,598	31,810	194,234	75,691	50,611	22,273	148,575	92,656	32,328	43,326	43,962	91,650	3,248	307,170	56,028	42,276	37,702	18,912	47,331	54,258	256,507	906,486
MEDICAL EXAMINATION TOTAL ...	2,899	6,289	8,977	738	18,903	1,615	20,877	329	22,821	2,349	986	1,320	2,309	1,623	412	8,999	2,468	14,064	10,119	1,233	13,404	36,041	77,329	128,052
GRAND TOTAL	22,980	113,034	44,575	32,548	213,137	77,306	71,488	22,602	171,396	95,005	33,314	44,646	46,271	93,273	3,660	316,169	58,496	56,340	47,821	20,145	60,735	90,299	333,836	1,034,538
Surgical Operations.																								
General Anaesthesia	8	1,246	133	62	1,449	20	72	101	193	379	40	132	...	77	...	628	72	191	12	13	12	22	322	2,592
Spinal Anaesthesia	...	1	46	...	47	...	...	5	5	...	...	4	...	...	...	4	2	1	...	...	...	...	3	59
Other Anaesthesia	...	695	283	7	985	10	3	7	20	112	82	14	...	80	...	288	192	165	62	3	21	56	499	1,792
TOTAL ...	8	1,942	462	69	2,481	30	75	113	218	491	122	150	...	157	...	920	266	357	74	16	33	78	824	4,443

TABLE H.

In the following table is set out the amounts of some preparations manufactured, wholly or partly, in the Pharmaceutical Section of the Medical Store during the past seven years.

		1929.	1930.	1931.	1932.	1933.	1934.	1935.
Tincture	*pts.*	4,420	5,236	4,954	4,323	3,137	2,217	2,305
Liniments	,,	3,879	3,843	3,873	3,202	2,273	2,852	3,798
Ointments	*lbs.*	10,389	12,313	11,024	14,061	11,376	17,848½	16,308
Dusting Powder	,,	602	700	800	813	320	700	400
Infusions, conc.	*pts.*	1,236	1,256	1,064	864	464	482	650
Hard Soap	*lbs.*	14,370	6,250	...	9,156	...	...	2,284
Soft Soap	,,	6,096	8,838	9,280	...	9,855	11,027	14,451
Sundries	,,	5,108	5,187	5,905	1,773	1,277	506½	2,540
Bismuth sod. pot. tart.	,,	24	5	17½	45	33½	42½	7½
Cataplasma Kaolin	,,	...	...	...	...	640	1,003	1,045
Insecticide	*pts.*	...	...	...	...	296	746	1,709
Oxymels and Syrups	*lbs.*	...	...	...	...	1,323	1,175	1,554
Glycerin Preparations	,,	...	...	...	...	226	522	457
Liquors	*pts.*	...	...	...	...	786	2,032	2,828
Spirits	,,	..	...	...	...	468	653	966
Metal Polish	*bots.*	...	...	...	...	...	...	686
INJECTIONS and SUSPENSIONS :								
Bismuth Oxid. 30 cc.	*bots.*	...	...	...	...	...	cc. 166,460	cc. 410,170
Emetine Hyd. 10 cc.	,,	...	...	...	...	cc. 1,800	cc. 5,720	cc. 10,600
Quinine Bihyd. 10 cc.	,,	...	...	...	...	cc. 3,500	cc. 11,360	cc. 15,000
Camphor in Oil	,,	...	...	...	...	...	cc. 490	cc. 1,720
Thiosinamin		...	...	...	...	...	cc. 330	...

A LIST OF SUB-DISPENSARIES OPEN OR UNDER CONSTRUCTION IN 1935.

Name.	District.	New Cases 1935.	Re-Attendances 1935.	Year Opened.	Remarks.
Mukono	Mengo	5,673	25,240	1923	Permanent buildings.
Kasangati	,,	5,347	14,398	1923	,, ,,
Bowa	,,	9,698	24,073	1923	,, ,,
Kalagala	,,	6,272	20,804	1930	,, ,,
Kome	,,	727	2,130	1923	Island Dispensary. Temporary buildings.
Buvuma	,,	1,265	4,845	1923	,, ,, ,, ,,
Nakasongola	,,	3,018	11,090	1931	Temporary buildings.
Wakiso	,,	7,266	15,755	1923	Permanent buildings.
Mpigi	Entebbe	4,800	13,710	1923	Permanent buildings with ward.
Mubende Hill	Mubende	2,918	8,800	1926	Temporary buildings.
Mityana	,,	8,101	16,835	1923	Permanent buildings.
Kibale	,,	5,767	25,806	1926	Temporary buildings.
Kakumiro	,,	3,503	15,568	1928	,, ,,
Madudu	,,	2,430	11,705	1928	,, ,,
Kyanasoke	,,	3,195	15,919	1931	,, ,,
Kalungu	Masaka	4,619	18,099	1927	,, ,,
Kalisizo	,,	4,104	25,031	1923	,, ,,
Katera	,,	1,727	6,185	1926	Permanent buildings.
Kalangala	,,	2,494	7,370	1923	Temporary buildings. Island Dispensary.
Rakai	,,	3,945	8,955	1927	Temporary buildings.
Lyantonde	,,	5,670	15,073	1927	Permanent buildings.
Kaliro	Busoga	10,991	10,985	1927	Permanent buildings with ward.
Namwendwa	,,	16,065	21,608	1925	Permanent buildings with ward.
Bugiri	,,	8,188	8,915	1932	Temporary Buildings.
Namungalwe	,,	8,764	9,069	1925	Permanent buildings. 1935.
Nsinze	,,	16,822	12,203	1932	Temporary buildings.
Kityerera	,,	1,653	1,110	1933	,, ,,
Nagongera	Budama	7,831	22,030	1927	Permanent buildings. 1935.
Butaleja	,,	5,376	14,347	1927	,, ,,
Masafu	,,	9,630	16,163	1926	Permanent buildings with ward.
Budadiri	Bugishu	17,651	27,136	1922	Temporary buildings.
Butiru	,,	6,469	4,103	1931	,, ,,
Bulecheke	,,	9,646	16,419	1931	,, ,,
Budaka	Bugwere	9,518	7,356	1930	Permanent buildings with ward.
Kamuge	,,	8,544	13,423	1922	,, ,, ,, ,,
Bukedia	,,	12,095	14,927	1926	,, ,, ,, ,,
Katakwe	Teso	17,481	21,866	1926	Temporary buildings.
Serere	,,	23,795	33,844	1924	Permanent buildings.
Amuria	,,	16,809	16,021	1924	Permanent buildings with ward.
Kamod	,,	12,303	19,239	1931	Temporary buildings.
Kakabara	Toro	4,458	5,160	1922	,, ,,
Kasule	,,	6,171	10,457	1930	,, ,,
Butiti	,,	10,856	12,585	1925	,, ,,
Bundibugyo	,,	9,081	16,988	1926	,, ,,
Kisomoro	,,	11,482	27,861	1926	Permanent buildings with ward 1935.
Bugoye	,,	5,097	6,604	1932	
Mpondo	,,	4,262	10,665	1932	
Kanyampara	,,	6,189	25,894	1933	
Rwaitengya	,,	5,439	5,855	1932	
Bushenyi	Ankole	6,016	31,066	1922	Permanent buildings.
Lwasamaire	,,	10,846	29,845	1922	,, ,,
Kinoni	,,	6,320	11,349	1931	,, ,,
Ruhoko	,,	8,854	61,067	1922	Temporary buildings.
Rukingiri	Kigezi	4,563	20,319	1922	Permanent buildings with ward.
Kisolo	,,	4,082	24,152	1922	,, ,,
Mpalo	,,	3,167	18,582	1922	Temporary buildings.
Kinkizi	,,	2,658	10,522	1922	,, ,,
Aduku	Lango	10,235	22,631	1922	Permanent buildings with ward.
Kaberamaido	,,	16,353	31,313	1931	,, ,, ,, ,,
Aboki	,,	12,455	23,928	1931	Temporary buildings.
Omoro	,,	1,019	1,075	1935	,, ,,
Dwoli	Bunyoro	2,370	21,946	1935	,, ,,
Kiziranfumbi	,,	3,729	23,126	1935	,, ,,
Kisaru	,,	1,810	14,112	1931	,, ,,
Masindi Port	,,	1,438	6,658	1925	Permanent buildings.
Kiriandongo	,,	3,209	32,433	1926	,, ,,
Kinyala	,,	1,406	12,735	1925	,, ,,
Bujenje	,,	2,920	22,339	1932	Temporary buildings.
Kijonjubwa	,,	578	2,907	1933	,, ,,
Bulisa	,,	3,124	19,578	1935	,, ,,
Gere-Gere	Chua	7,504	17,902	1935	,, ,,
Paranga	,,			1934	
Minakulu	Gulu	9,958	15,401	1930	Permanent buildings.
Attiak	,,	7,862	15,609	1931	,, ,,
Awach	,,	5,003	10,457	1932	,, ,,
Abbia Ferry	,,	10,409	6,006	1934	Temporary buildings.
Ajumani	Madi	17,859	5,408	1927	Permanent buildings.
Zaipi	,,	2,748	1,457	1931	Temporary buildings.
Ubongi	,,	6,672	2,433	1933	,, ,,
Laropi	,,	5,681	2,933	1931	,, ,,
Lufori	,,	3,944	2,215	1935	,, ,,
Terego	West Nile	6,940	37,156	1925	Permanent buildings.
Pakwach	,,	7,666	16,930	1930	Temporary buildings.
Pai-Ida	,,	2,691	12,720	1930	,, ,,
Okollo	,,	4,326	16,321	1934	,, ,,
Warr	,,	5,926	20,174	1934	,, ,,
Aringa	,,	5,090	15,067	1928	Temporary buildings.
Udupe	,,	3,283	6,077	1932	,, ,,
Ladonga	,,	3,903	6,539	1932	,, ,,
Rumogi	,,	2,794	3,087	1932	,, ,,

REPORT ON THE UGANDA MEDICAL SCHOOL, MULAGO, FOR THE YEAR 1935.

219. The origin and development of this institution have been described year by year in the Annual Medical Reports of the Protectorate. To recapitulate briefly, higher education of the African Medical Assistant began in 1923 with the appointment of Dr. H. B. Owen as Medical Tutor to Makerere College. Tuition commenced in 1924 at Makerere, and students first came to Mulago Hospital for clinical work in 1925. The course was then one of four years, one year being devoted to the preliminary sciences, and three to purely medical subjects. In 1927, the course was extended to five years, the additional year being added with the object of improving the students' knowledge of the preliminary sciences, the three final years remaining unchanged. Students reside at Makerere for the first three years, although they work at Mulago during the third year, and in the hostel built at Mulago in 1928 during the last two years.

220. The subjects studied have not altered since 1927, and are as follows:—

First Year.—General education with an introduction to biology, physics, and chemistry.

Second Year.—Biology, physics, chemistry (medical, agriculture and veterinary syllabus, Makerere College).

Third Year.—Anatomy and physiology, elementary pharmacy.

Fourth Year.—Pathology, and allied subjects, *materia medica,* lectures in medicine and surgery and demonstrations in clinical methods.

Fifth Year.—Clinical medicine and surgery (completion of lectures in medicine and surgery). midwifery, gynaecology and forensic medicine.

Students remain at Mulago for one year after qualification, during which period they act as house physicians and house surgeons.

221. At the end of 1935, 29 students had qualified. Of these two are in the service of Zanzibar Government, one has died, and the remainder have been admitted to the Protectorate African Civil Service. Favourable reports on those working in Zanzibar have been received.

222. At the end of 1935, five students completed their third-year and sat for the Intermediate Examination. Four passed: one failed and will discontinue the course.

Six entered for the Final Examination Part I. Two passed; three were referred for six months, and one failed and will discontinue the course.

Six sat for the Final Examination Part II. Four passed and two were referred for six months.

Four students who have passed the examination in the preliminary sciences will enter the Medical School in 1936. Two are Baganda, one is from Kenya and one from Tanganyika.

223. The Foundation Medals were awarded as follows:—

S. B. Kyawalyanga.—
First Class honours.
Gowers' Medal in Surgery.
Keane Medal in Medicine.
I. Kadama.—
Owen Medal in Midwifery.

224. The examiners, Drs. S. Forrest and H. C. Trowell reported as follows:—

Medicine.—The students displayed an excellent knowledge of the important points and dealt with facts in the order of their importance and prevalence in Uganda. There were practically no serious omissions of relevant facts. The students appear to use sound methods of physical examination.

Surgery.—In the clinical examination five of the candidates scored 75 per cent. or over; the written paper was less satisfactory, and a lack of knowledge of operative surgery was apparent.

Midwifery.—With one exception the candidates displayed marked confidence in the interrogation and examination of their clinical cases.

Pathology.—The paper was answered moderately well; knowledge of morbid histology appeared to be good. In the practical and oral examination the candidates did well in clinical pathology and morbid histology, but were unduly hesitant in giving their opinion on post-mortem viscera.

Materia Medica.—The results were disappointing. Only one candidate displayed a really good and intelligent grasp of the subject. In the oral examination questions were based on the use of mixtures contained in the Uganda Pharmacopoeia and the action and doses of their ingredients. The replies received suggested that insufficient time had been spent by the students in the dispensary.

Physiology.—All the candidates except one passed fairly well in the physiology paper, but only one did well in the practical and oral part.

Anatomy.—With one exception, all the candidates passed both the written and oral examinations creditably and showed a sound knowledge of osteology and surface anatomy.

225. It has always been contemplated that the school would serve a wider field than that of the Uganda Protectorate. This is now being realised, for students are being received from Zanzibar, Tanganyika and Kenya. It was desirable, therefore, that co-operation should be establised between the territories concerned, with a view to setting out a syllabus and a standard of teaching which would meet the needs of all. For this reason the formation of a Joint East African Board of Examiners has been approved, the duty of which will be to appoint external examiners and to approve the syllabus of subjects laid down for each section of the curriculum. Some revision of the syllabuses has been made during the year to make the instruction more suitable for African requirements.

Training of Nursing Orderlies—Junior and Senior.

226. Pupils, who are recruited in March, are posted to the wards where they carry out routine duties, and are supervised and given instruction by the Sister-tutor. Classes are limited to twelve pupils. Systematic teaching and demonstrations of nursing technique are given by the Sister three times weekly. Lectures on hygiene, elementary physiology and anatomy and in the causation of disease are given by the Medical Superintendent three times weekly. All teaching is done in English. During this period the pupil receives Shs. 15 monthly, out of which he pays Shs. 9 for his food, as it is found that if left to his own devices he feeds upon an inadequate diet. He is also provided with a uniform. At the conclusion of the first year, which consists of two sessions, March to June and August to November, he is examined and if successful and if otherwise satisfactory his pay is increased to Shs. 25 per mensem. During the second year, night duties are performed for six months, day duties for six months. At the end of this year an examination which is in the main practical is held. If successful, the pupil passes out as a Junior Nursing Orderly in Grade V. and may be placed on the scale Shs. 30 by annual increments to Shs. 45.

227. The Junior Orderly may remain at Mulago Hospital but as a rule he will be posted to a district hospital at which he will be under the supervision of a Nursing Sister. If he shows a keen interest and aptitude, he may be selected in two or three years to return to Mulago for a year's further tuition, at the end of which he is examined, and if successful and a vacancy exists may enter Grade IV., in which his pay is Shs. 50 by annual increments to Shs. 70.

228. Since 1928, 173 orderlies, including five females, have passed the Junior class, and 155, including four females, the Senior.

Training of Dispensers.

229. The course extends over a period of four years, during which time pupils are employed exclusively in the dispensary at Mulago Hospital. Only those who have passed the entrance examination to Makerere College are admitted to the course. Pupils are paid Shs. 20 during the first year, on passing the examinations at the end of the first and second years, their pay rises to Shs. 30 and Shs. 40 respectively. On qualifying at the end of the third year, the dispenser is admitted to Grade IV., Shs. 50 per mensem rising by annual increments to Shs. 70. Up to the end of 1935, two pupils had qualified.

Training of Laboratory Orderlies.

230. This is undertaken by the Senior Bacteriologist. The course of training lasts two years. At the end of the first year there is an examination, and if the orderly passes he is given an increment to bring his pay to Shs. 25 per mensem. At the end of the second year he is again examined, and if successful he passes into Grade V. in which the pay is Shs. 30 by annual increments to Shs. 45. He is then posted to a district hospital as a laboratory orderly. Those who show promise may later be selected for a further course of training.

Up to the end of 1935, 17 orderlies had passed into Grade V.

The syllabuses have been printed as a separate pamphlet.

SECTION VII.—REPORT ON PRISONS AND ASYLUMS FOR 1935.

231. The details for each Protectorate Prison for 1935 were as follows:—

	Accommodation available.	Daily average in prison.	Daily average sick list.	Deaths.	Morbidity rate per thousand.	Death rate per thousand.
Central Prison	937	896	15	18	16·7	20·0
Entebbe	143	89	1	...	11·2	...
Masaka	65	35	3	1	...	28·5
Mubende	26	11	1	...	...	...
Jinja	78	71	4	...	56·3	...
Mbale	100	80	5	...	62·5	...
Tororo	16	16	2	...	...	...
Soroti	140	77	4	...	51·9	...
Moroto	41	38	1	1	...	26·3
Masindi	34	44	6	...	...	...
Lira	120	118	9	3	76·2	25·4
Arua	63	72	7	...	97·2	..
Gulu	78	65	9	...	138·4	...
Kitgum	153	35	6	...	...	...
Fort Portal	30	19	1	...	...	...
Mbarara	37	21	3	...	...	...
Kabale	55	44	2	3	..	68·1
Total	—	1,731	79	26	45·6	15·0

In addition a few prisoners were confined in the Native Administration prison at Moyo.

232. The morbidity rates for the smaller gaols are not given as the apparently high rates would give an erroneous impression of the health conditions. Though the gaols at Masindi and Arua were consistently overcrowded during the year, there was little serious illness and no deaths at either.

233. The commonest complaints were malaria, ulcers, injuries, and diseases of the respiratory tract. There were three cases of cerebro-spinal meningitis in the Central Prison, Luzira.

234. There were 26 deaths among convicts during 1935. This is the smallest number for many years. The causes were:—

Tuberculosis	4	Meningitis following cerebral thrombosis	1
Pneumonia	4	Pericarditis and cerebral abscess ...	1
Meningococcal septicaemia	3	Chronic nephritis and dysentery ...	1
Dementia	2	Anaemia	1
Dysentery	2	Strangulated hernia	1
Syphilitic meningo-encephalitis ...	2	Cerebro-spinal meningitis	1
Pneumococcal meningitis	2	Thrombosis	1

235. The authorised ration scale at the Central Prison which is for long term prisoners remained unaltered and consisted of:—

	Ounces per diem.		Ounces per diem.
Maize	20	Fresh vegetables or sweet potatoes ...	6
Beans	5	Meat	4
Ground nuts	3	Meat (if dry)	2
Salt	½		

236. The diet for short term prisoners, issued at other prisons, is:—

	Ounces.		Ounces.
Maize floor	24	Ground nuts or sim-sim	2
Beans	4	Salt	¼

237. This diet was adhered to except in certain places where the staple diet of the inhabitants differs. At Soroti, *wimbi* is substituted for maize flour; at Moroto *mtama* flour is issued instead of maize flour; and meat, the natural diet of the

Karamojong is issued instead of fresh vegetables, which are unobtainable; at Kitgum *wimbi* flour or sweet potatoes are supplied instead of maize; and at Fort Portal the ration consisted of:—

Sweet potatoes	6 lbs.	Germinated peas	2 ozs.
Beans	4 ozs.	Salt	½ oz.
Groundnuts	2 ozs.	Sugar, per week	1 lb.

238. During the year, one European and 34 Asiatics were admitted to gaol.

239. The general conditions in each prison are set out below:—

Buganda Province.

240. *Central Prison, Luzira.*—The ventilation of the cells was investigated during the year, and the provision of mosquito netting to windows was recommended.

241. *Mubende.*—A new kitchen was built.

Eastern Province.

242. *Jinja.*—The Warders' lines, which were very dilapidated, were replaced by new huts of standard type.

243. *Soroti.*—The present temporary structure should be replaced by a permanent building.

Northern Province.

244. *Masindi and Lira.*—New permanent gaols are required.

245. *Arua.*—Permanent bucket latrines were provided, but a permanent gaol should be built.

Western Province.

246. *Fort Portal.*—The main building was re-roofed, and the walls plastered inside and out. The prison is satisfactory.

247. *Kabale.*—The present temporary structure should be replaced by permanent buildings.

248. *Mbarara.*—Tarring of the walls has eliminated ticks, but the cells are poorly lighted and ventilated. The gaol is very old, and its replacement is required. A new kitchen was built during 1935.

Native Administration Gaols.

249. Though in many districts the gaols in which Native Administration prisoners are housed are permanent buildings, in many cases they are overcrowded, and the diet is not up to the standard of the Protectorate prisons.

250. In Masaka, many of these gaols are infested with ticks, and that at Kalisizo was closed on this account. Ticks were discovered in the gaol at Hoima, which was closed. As a temporary measure, the prisoners were transferred to the old asylum building, which it is proposed to take over as the Native Administration gaol. Considerable improvement in the sanitation of this building will, however, be required before it can be considered satisfactory for this purpose. The gaols were inspected regularly by Medical Officers, and in some districts the prisoners received regular medical attention either from the nearest dispensary or by a Warder trained for the purpose.

Protectorate Mental Hospital.

251. In October, the inmates of the asylum at Hoima were transferred to the new Protectorate mental hospital at Mulago. The old building was then closed. In the new hospital there is accommodation in the wards for 72 male and 24 female patients, and single cells for dangerous patients for 12 males and 4 females. To each ward shower-baths, store-rooms, water-closets and sterilizing rooms are attached. Wards are washed by water-hose and soft brooms and are kept remarkably clean in spite of constant soiling by the inmates. There are large grass compounds surrounded by open fences, in which the patients have ample room to move about. Day shelters with cement floors, drinking water taps, and latrine accommodation are provided. Those who are fit for light work are employed in cultivation for a few hours daily. The general health of the inmates was good.

252. There were five deaths in 1935:—

	Males.	Females.
Asthenia	4	—
Mitral stenosis	—	1

MENTAL HOSPITAL.

Table Showing the Movements of the Mental Hospital Population for each Year for the Years 1922—1935 together with Recovery and Death Rates.

Year.	First Admissions.			Re-Admissions.			Total Admissions.			Total Number under Treatment.			Number Discharged.			Number Died.			Number Remaining at end of Year.			Average Daily number on Register.			Percentage of Discharges on Total Admissions.			Percentage of Deaths on Average Daily Number on Register.		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1922 ...	11	3	14	1	...	1	12	3	15	36	6	42	7	1	8	9	...	9	20	5	25	20	3	23	58·3	33·3	53·3	45·0	...	21·4
1923 ...	31	6	37	...	...	...	31	6	37	51	11	62	12	3	15	10	2	12	29	6	35	26	6	32	38·7	50·0	40·5	38·4	33·3	37·5
1924 ...	20	8	28	...	..	...	20	8	28	49	14	63	8	...	8	12	3	15	29	11	40	29	9	38	40·0	...	28·5	41·3	33·3	39·4
1925 ...	26	4	30	...	...	...	26	4	30	55	15	70	3	...	3	9	3	12	43	12	55	32	11	43	11·5	...	10·0	28·1	27·2	27·9
1926 ...	29	13	42	1	...	1	30	13	43	73	25	98	5	1	6	16	4	20	52	20	72	48	16	64	16·6	7·6	13·9	33·3	25·0	31·2
1927 ...	15	5	20	2	...	2	17	5	22	69	25	94	15	7	22	17	4	21	37	14	51	38	18	56	88·2	140·0	100·0	44·7	22·2	37·5
1928 ...	21	5	26	3	1	4	24	6	30	61	20	81	2	...	2	18	1	19	41	19	60	37	16	53	8·3	...	6·6	48·6	6·2	35·8
1929 ...	22	7	29	1	...	1	23	7	30	64	26	90	10	4	14	14	1	15	40	21	61	37	20	57	43·4	57·1	46·6	37·8	5·0	26·3
1930 ...	14	3	17	1	...	1	15	3	18	55	24	79	6	4	10	9	2	11	40	18	58	37	19	56	40·0	133·3	55·5	24·3	10·5	19·6
1931 ...	16	6	22	1	1	2	17	7	24	57	25	82	5	3	8	6	4	10	46	18	64	42	17	59	29·3	42·8	33·3	14·3	23·5	16·9
1932 ...	18	2	20	1	...	1	19	2	21	65	20	85	5	...	5	14	2	16	46	18	64	47	18	65	26·3	...	22·9	29·8	11·1	25·0
1933 ...	14	2	16	...	...	...	14	2	16	60	20	80	5	...	5	10	3	13	45	17	62	45	17	62	35·7	...	31·2	37·4	17·6	20·9
1934 ...	20	7	27	2	...	2	22	7	29	67	24	91	7	1	8	17	5	22	43	18	61	44	17	61	31·8	14·2	27·6	38·6	29·4	36·0
1935 ...	24	7	31	...	...	...	24	7	31	67	25	92	3	2	5	4	1	5	60	22	82	45	18	63	12·5	28·5	16·1	8·8	5·5	7·9
Totals ...	281	78	359	13	2	15	294	80	374	829	280	1109	93	26	119	165	35	200	...	...	...	...	...	...	...	...	...	...	...	...

SECTION VIII.—METEOROLOGY.

253. All available information is printed in the Blue Book.

SECTION IX.—SCIENTIFIC.

254. Scientific papers published during the year by members of the medical staff:—

DR. L. J. A. LOEWENTHAL.—

"A case of Erythromelalgia in an East African Native."—*East African Medical Journal*, Vol. XI, 1935, page 397.

"The African's skin."—*Uganda Journal*, Vol. II, 1935, page 272.

"An enquiry into Vitamin a deficiency in school children."—*Annals of Tropical Medicine and Parasitology*, Vol. XXIX, 1935, page 349.

"The Manifestations of Vitamin a deficiency in man."—*Annals of Tropical Medicine and Parasitology*, Vol. XXIX, 1935, page 407.

MR. E. G. GIBBINS.—

"Mbwa Flies."—*Uganda Journal*, Vol. II, page 272.

"*Simulium griseicolle* Becker from the Sudan."—*Annals of Tropical Medicine and Parasitology*, Vol. XXIX, 1935, page 177.

"On the Male Terminalia of Simuliidae."—*Annals of Tropical Medicine and Parasitology*, Vol. XXIX, 1935, page 317.

DR. E. A. C. LANGTON.—

"Some observations on Infants and Young Persons in Bunyoro, Uganda."—*East African Medical Journal*, Vol. XI, 1935, page 316.

DR. A. A. FORBES-BROWN.—

"The Ulcer Syndrome in Tropical Africa."—*The Journal of Tropical Medicine and Hygiene*, Vol. XXXVIII, 1935, page 157.

ANNUAL REPORT OF THE LABORATORY SERVICES FOR THE YEAR 1935.

PART I.

255. *General Review.*—This Report covers the year ending 31st December, 1935.

256. There has been no change in policy, staff or work, and the laboratory is still sited in the old administrative block of Mulago Hospital.

PART II.

257. The number of examinations made in the laboratory during the year was 49,243.

258. A. *Blood Examinations and Cell Counts.*—

	Europeans.	Asians.	Africans.	Total.
For parasites	491	37	12,534	13,062
Differential leucocyte counts	21	19	76	116
Total cell counts	2	1	76	79
White cell counts	13	1	78	92
Red cell counts	10	7	69	86
Cerebral spinal fluid counts	—	2	53	55
Blood groupings	—	—	1	1
				13,492

259. The following table gives the number of parasites found in direct smears :—

	Europeans.	Asians.	Africans.	Total.
P. falciparum	37	5	2,897	2,939
P. malariae	8	—	548	556
P. vivax	—	—	32	32
P. falciparum and *P. malariae*	—	—	11	11
Malaria parasites, species unidentified	1	3	21	25
T. recurrentis	—	—	54	54
Microfilaria perstans	—	—	405	405
Trypanosomes	—	—	1	1
P. pestis	—	—	10	10
				4,033

260. *Faeces Examinations.*—

	Europeans.	Asians.	Africans.	Total.
Microscopical for ova	362	58	3,561	3,981
Microscopical for protozoa	387	51	824	1,262
For occult blood	21	9	39	69
For tubercle bacilli	4	—	4	8
Cultures	2	—	226	228
				5,548

261. Of the 362 examinations made for ova in Europeans, three contained *ancylostoma* and two *taenia*, and of the 387 specimens examined for protozoa, five contained active amoebae and two cysts of *E. histolytica; E. coli* was present in 12 instances. Of the 51 examinations made in Asians, three showed *E. histolytica* and three *E. coli*. In the case of Africans, 3,561 examinations for ova showed 34 with *S. mansoni*, 248 with *ascaris*, 1,770 with *ankylostoma*, 218 with *taenia* and 507 with *trichiuris*; 844 protozoal examinations showed 21 with *E. histolytica.*

262. C. *Urine Examinations.*—

	Europeans.	Asians.	Africans.	Total.
General and microscopical	419	82	3,823	4,324
Quantitative for albumin	58	2	5	65
Quantitative for sugar	—	11	—	11
For bile pigments	2	—	27	29
For acetone	2	—	3	5
For tubercle bacilli	13	4	4	21
				4,455

263. D. *Serological Examinations.*—

	Europeans.	Asians.	Africans.	Total.
Wassermann tests	4	1	166	171
Khan tests	84	93	18,177	18,354
Agglutination tests	27	25	233	285
Van den bergh reaction	—	—	15	15
				18,825

264. E. *Pus and Exudates.*—

	Europeans.	Asians.	Africans.	Total
For gonococci	25	15	718	758
For *M. leprae*	—	—	7	7
For *P. pestis*	—	1	105	106
For other organisms	41	14	80	135
For cultures	14	1	20	35
For vaccines	11	1	4	16
				1,457

265. Of 105 examinations from Africans for *P. pestis*, six were positive as was the single examination from an Asiatic.

266.	Europeans.	Asians.	Africans.	Total.
F. Dark ground examinations	2	—	130	132
G. Sputa	56	18	764	838

267. Of the 764 sputa from Africans 99 showed *B. tuberculosis* and four showed *P. pestis*; three sputa showed *B. tuberculosis* from Asiatics.

268. H. *Cultures to ascertain Sterility of Drugs*, 52.

269. I. *Histological Examinations.*—Sections from 293 surgical and post-mortem cases were examined, of these 76 were of tumours :—

Rodent ulcer		1
Nose	1	
Squamous cell carcinoma		15
Cervix	4	
Scrotum	1	
Lip	2	
Tongue	1	
Penis	3	
Oesophagus	1	
Anus	1	
Ulcer	1	
Eye	1	
Columnar-cell carcinoma		12
Bile duct	2	
Uterus	2	
Rectum	2	
Colon	1	
Meibomian gland	1	
Antrum	1	
Parotid	1	
Prostate	1	
Thyroid	1	
Spheroidal-cell carcinoma		2
Breast	1	
Maxillary antrum	1	
Carcinoma		3
Liver	3	
Spindle-cell sarcoma		3
Chest wall	2	
Leg	1	
Mixed-cell sarcoma		1
Leg	1	
Round-cell sarcoma		2
Thigh	1	
Jaw	1	

Lympho-sarcoma		2
Mesentery	2	
Myeloid-sarcoma		1
Bone	1	
Myo-sarcoma		1
Mesentery	1	
Melanoma		5
Eye	3	
Foot	1	
Palate	1	
Endothelioma		2
Auricle	1	
Thigh	1	
Neuroblastoma		1
Retina	1	
Glioma		1
Cerebrum	1	
Teratoma		1
Testis	1	
Odontoma		3
Mandible	3	
Myxochondroma		1
Arm	1	
"Mixed" tumour (parotid)		1
Neck	1	
Adenoma		1
Rectum	1	
Fibroma		5
Back	1	
Neck	1	
Buttock	1	
Toe	1	
Orbit	1	

Fibro-adenoma		1
Breast	1	
Fibro-lipoma		1
Foot	1	
Fibro-myoma		2
Uterus	2	
Cysts		4
Sebaceous	1	
Thyroglossal duct	1	
Ovarian	2	

Lipoma		1
Thigh	1	
Polypus		1
Nose	1	
Papilloma		2
Penis	1	
Skin	1	

270. In the last four years 184 malignant tumours were classed as:—

Carcinomata	108	58·6%
Sarcomata	40	21·7%
Melanomata	17	9·2%
Endotheliomata	13	7·0%
Teratoblastomata	6	3·2%

A modest corroboration of Vint's findings in Kenya.

271. J. *Summary of Post-Mortem Examinations*:—

Infections.—	
Plague, bubonic	1
Plague, pneumonic	2
Plague, septicaemic	1
Pneumococcal pneumonia	25
Pneumococcal peritonitis	1
Pneumococcal meningitis	5
B. friedlanderi pneumonia	6
Influenzal	1
Meningococcal meningitis	3
Meningococcal Septicaemia	2
Streptococcal Septicaemia	7
Streptococcal endometritis	4
Pyaemia	2
B. coli peritonitis	1
Osteomyelitis	1
Enteric fever	1
Tuberculosis, pulmonary	4
Tuberculosis, miliary	3
Tuberculosis, intestinal	1
Tuberculosis, spinal	1
Syphilis, cerebral vessels	3
Syphilis, trachea	1
Syphilis, aorta	5
Syphilis, meningeal	5
Syphilis, cranial	1
Rheumatic endocarditis	3
Chronic pericarditis	1
Abscess of lung	1
Dysentery, bacillary	2
Dysentery, amoebic	2
Relapsing fever	1
Cerebral malaria	5
Trypanosomiasis	1

Toxic and Degenerative Conditions.—	
Eclampsia	1
Nephritis	3
Hepatic cirrhosis	3
Anaemia	1
Arsenical poisoning	1
Alcoholic poisoning	2
Dementia and inanition	1
Inanition	2
Tumours.—	
Lymphosarcoma	1
Oesophageal carcinoma	1
Hepatic	4
Bladder, carcinoma of	1
Lymphadenoma	1
Maxillary osteosarcoma	1
Leukaemia	1
Mechanical Injuries.—	
Shock, post-concussive	2
Shock, operative	2
Wounds, head, with cerebral haemorrhage	8
Wounds, thoracic	1
Wounds, abdominal	3
Fracture of skull	12
Rupture of spleen	1
Rupture of liver	1
Rupture of intestine	2
Rupture of bladder	2
Intussusception	1
Aneurysm of internal iliac artery	1
Suffocation by vomit	1
Undiagnosed	4
Cause of death obscured by decomposition	3
	171

272. Nothing of particular interest was noted during the year other than three fatal cases of meningococcal septicaemia occurring in healthy young male adult prisoners in the Central Prison. No gross involvement of the meninges was detected. Diagnosis was made from positive cultures of fluid from the lateral ventricles.

273. K. *Miscellaneous Examinations*, 101.

CHEMICAL SECTION.

274. The chemical staff consists of the Analytical Chemist and one African Laboratory Orderly.

During the year the following specimens, etc., were received at the laboratory for chemical investigation:—

Medical Department.—	
Bloods, chemical	19
Drugs	2
Gastric contents	3
Gastric test meals	7
Milk, human	3
Milk, cows	4
Paint	1
Pathological fluid	1
Soap	3
Toxicological	1
Urine	5
Water	6
Treasury Department.—	
Mealie meal	3
Municipal Department.—	
Aerated waters	3
Milk, cows	20
Milk, condensed	1
"Cyanogas" powder	3
Waters	3
Police Department.—	
Blood stains	25
Toxicological	17
Soap	3
Public Works Department.—	
Waters	6
	139

ANNUAL REPORT OF THE GOVERNMENT DENTAL SURGEON FOR 1935.

275. For eight months of 1935 the Dental Surgeon was on leave, his duties being carried on by Mr. G. W. B. Bateman, whose work is included in this Report.

The treatment of officials, European and Asiatic, is shown in the following tables:

(1) Appointments 1,875

(2) The following conditions were treated:—

Caries simplex	742	Periodontitis	61
Extractions	431	Erosion	64
Pyorrhoea	39	Gingivitis	29
Abscess	31	Pulpitis	34

(3) Conservation Work:—

Silver amalgams	503	Carbolised resins	267
Synthetic porcelain	223	Scalings	273
Oxyphosphates	40	Zinc chloride applications	160
Zinc oxide	102	Gold inlays	32

(4) Prosthetic Work:—

Dentures	54	Pivots	16
Repairs to dentures	79		

(5) The following stations besides Entebbe and Kampala were visited:—
Jinja, three visits; Mbale, two visits; Fort Portal, Mbarara and Masindi, one visit each.

Appendix I.

REGULATIONS GOVERNING THE HOUSING OF NATIVE LABOUR EMPLOYED IN GINNERIES.

Where permanent accommodation for labourers, duly approved by a Protectorate Medical Officer, does not exist all temporary camps will conform to the specification appearing in this pamphlet.

Siting.—The camp site will be selected by the Officer in charge of the District; when possible, in consultation with the District Medical Officer, or their representatives.

Water.—Provision for a satisfactory water supply must be made at all camps and suitably protected from contamination. Where a natural water supply does not exist or where the natural supply is insufficient, provision must be made for the supply of at least three gallons per head per day for each male employed. Such supply shall be available in the camp stored in suitable receptacles. This may entail the sinking of shallow wells, in which case either of the methods depicted at type Plans should be followed.

Lay-out.—Camps will be laid out as near as possible in accordance with type Plans dependent on the site available.

Housing.—Huts will be erected in accordance with type Plan. No hut to accommodate more than four labourers.

One sweeper to every forty labourers will be retained in camp.

A kitchen erected in accordance with type Plan will be provided for every 60 labourers or a portion thereof, and one cook to every 20 men appointed. Kitchen utensils will be supplied by the employer.

One single-stance latrine built in conformity to type Plan will be erected for every 10 men in camp, the position of the latrines will conform to type Plan.

Single-stance latrines, one for males and one for females, will be erected in all ginnery compounds for the use of visiting natives as near as practicable to all main entrances and exits of ginneries.

Latrines for ginnery labour in ginnery compounds will be provided in the proportion of:—

One for every 10 persons employed if total employees number 50 or less;
One for every 12 persons employed if total employees number over 50 and under 96;
One for every 15 persons employed if total employees number over 96;

provided that each latrine is 20 feet deep or more.

If the pit is 15 feet deep only, an increase of 50 per cent. must be made in the number of latrines.

If the pit is 10 feet deep only, an increase of 100 per cent. must be made in the number of latrines.

Latrines for labour in ginnery compounds will be sited not less than 50 feet within the boundary of the compound, and not more than 150 feet from the ginnery.

Where night shifts are worked, ten per cent. of the latrines in ginnery compounds must be sited not more than 60 feet from the ginnery, must have a well laid-out path of access, and must be artificially lighted between sunset and sunrise.

If it prove impracticable to adhere to these instructions in regard to siting, the suggested site must be approved by the District Medical Officer or an officer duly authorised by him.

Wherever satisfactory pit latrines cannot be constructed, latrine accommodation must be in accordance with the Factories Board Bulletin No. 2 of 1935.

No cotton or cotton seed is to be stored in any labour camp.

The camp site and surroundings will be maintained in a cleanly state, being swept daily. All domestic and camp refuse will be disposed of in a manner approved by the District Medical Officer.

Layout of Camp.

(i) Camps will be laid out in accordance with type Plans.
(ii) Huts will be spaced 20 feet apart.
(iii) A space of 50 feet will be kept cleared from the outer walls of the outer row of huts to the camp boundary.
(iv) The camp boundary will be demarcated by a kisakate fence.
(v) Latrines should be 30 feet away from the nearest habitation.

Specification of Hut.

(i) Diameter of hut, 16 feet.

(ii) Height of wall, 7 feet 6 inches.

(iii) Pitch of roof, 45°.

(iv) Overhang, 2 feet.

(v) Thatching, grass or papyrus, five inches thick and waterproof.

(vi) Walls of hut, mud and wattle with smooth swamp sand plaster finish both sides.

(vii) Floors of rammed murram 4 inches above ground level and surfaced with earth or cow dung and must be freshly daubed every ten days.

(viii) Each hut to be fitted with a doorway 6 feet high and 2 feet 6 inches to 3 feet wide.

(ix) Ventilation will be provided by three open windows as shown in the type Plan equal to at least one-tenth of the floor area, or by leaving a space one foot deep all round the hut between the roof and the top of the wall.

(x) Insides and outsides of huts will be whitewashed once a month.

Specification of Kitchen.

(i) Height of centre poles, 13 feet.

(ii) Height of wall poles, 9 feet 3 inches.

(iii) Roof of grass or papyrus.

(iv) Walls will be constructed in poles and mud plaster or corrugated iron sheeting 4 feet in height, except on the side of the prevailing wind, where the wall should be 6 feet in height.

(v) Floor of rammed murram 4 inches above ground level and surfaced with earth or cow dung and must be freshly daubed every ten days.

Specification of Pit Latrine.

(i) Height of walls, 7 feet 6 inches.

(ii) Pitch of roof, 45°.

(iii) Walls of mud and wattle with smooth swamp sand plaster finish both sides.

(iv) Floor of rammed murram or earth 4 inches above ground level to be freshly daubed with mud or cattle manure once a week.

(v) Ventilation as shown in the type Plan on all sides and 5 feet above ground level.

(vi) Pit 20 feet deep by 6 feet by 2 feet 6 inches at the mouth and tapering to 4 feet by 2 feet 6 inches at the bottom.

(vii) Concrete stance, 2 feet by 2 feet by 2½ inches. Cement concrete 1—3—6 reinforced with 3 inch mesh expanded metal or 6 No. ½-inch iron bars. Lift-off wooden cover with long handle.

(viii) Wherever satisfactory pit latrines cannot be constructed, latrine accommodation must be in accordance with Factories Board Bulletin No. 2 of 1935.

Appendix II.

CONSTRUCTION AND PLACING OF PUPAE SHELTERS ON LAKE VICTORIA NYANZA.

A frame is first of all built with poles, reeds and small saplings tied together with the bark of *Triumfetta tomentosa* or *T. macrophylla* and other material such as used in forest region by natives of this country. None of the poles exceed three inches thick and none less than one-and-a-half inches. The saplings vary from half-an-inch to one-and-a-half inches thick. For the thatching *Imperata cylindrica* or another fine grass found growing around the lake shore is used. When the frame has been completed the roof and the upper portion of the front and sides are thatched. The roof thatching is held down by four long poles tied at each end to the eave saplings. It is important to have a very thick layer of thatch so as to prevent any rain from damping the loam and sand otherwise tsetse will not deposit larvae in the shelter. Loam and sand are then heaped up in the shelter some eight inches to a foot deep. Some of the shelters have pebbles amongst the sand but it is not known whether those shelters containing pebbles are more beneficial in attracting fly to deposit larvae or not, than those with only sand and loam. When the whole construction is finished banana fibre is tied suspended from the roof in rows of six inches apart and six inches to a foot from the sand and loam level.

The slanting roof faces the direction of the prevailing wind and eliminates the possibility of rain gaining access. The pupae-shelters in use, are all facing inland, *i.e.*, the slanting roofs face the open lake and the entrance faces the forest or bush. The shelters have a clearing extending from the lake shore to the shelter some fifteen feet wide and all under growth is kept clear around the shelter for eight or ten feet. Where shelters are placed behind papyrus no clearing to the lake has been done. It has been found that when there is a considerable stretch of papyrus between the shelters and lake no tsetse oviposit. Quite a number of traps are made useless owing to the rise of the lake, which makes them too damp for breeding to take place.

Appendix III.

ANNUAL REPORT OF THE GOVERNMENT ENTOMOLOGIST FOR 1935.

Medical Entomology.

Mr. G. H. E. Hopkins, whose time is normally occupied by work on the medical branch of entomology, was off duty owing to illness during the whole year apart from seven weeks in the first quarter. It proved impossible therefore to do more than touch on certain aspects of some items of the medical entomological research programme, in addition to carrying out various urgent requests and routine work of medical interest which latter progressively increase.

This report is divided into the following sections in the order listed: rats, fleas and plague; mosquitoes; training of African personnel; control of parasitic helminths; tsetse flies; Welfare Exhibition; spirillum tick; miscellaneous.

Rats, Fleas and Plague.

The investigations on the alleged connection between the cotton-crop and plague have been continued. It is hoped to publish the full results shortly. A brief summary is given below.

Very little evidence of the alleged special connection was found. Rats utilise cotton, both as food and nesting-material, to a considerable degree, but approximately one-third of the rats fed exclusively on this diet failed to survive one month. There are no indications that the rat-population in and around ginneries is higher than elsewhere, but the data indicate that the fleas found on such rats are more numerous. For practical purposes the danger of plague being spread by the export trade in cotton and cotton-seed appears to be negligible. There are, however, indications that failure to clean up ginneries and stores thoroughly at the end of the cotton season involves a certain amount of local danger, since fleas were found to be breeding in considerable numbers in small quantities of cotton-seed mixed with dust left over from the previous season. Fleas were found also to breed freely in similar deposits of dust from shops which sold grain and flour.

In connection with experiments carried out by the Agricultural Chemist on the rotting of cotton-seed for use as manure, tests were made of the material to determine whether it was attractive as a food to rats. It was found that rats will eat the remains of seed so far decomposed as to be unrecognisable as such.

The investigations on habits of hut-rats and on the effect of cyanogas were continued. The customary absence of rats from any part of a hut except the thatch was confirmed. A slightly different technique for gassing huts, used in Kenya, was compared with the Uganda method in an endeavour to obtain a better kill of rats. The numbers of rats found were insufficient to give the results much value, but they showed a strong indication in favour of the Kenya method. A peculiar point is that all the naked young in nests (invariably left alive by the Uganda method) were killed by the Kenya method. Neither method gave a complete kill, 26 rats out of 86 surviving gassing by the Kenya method and a larger proportion by the Uganda method.

An unexpected result was the discovery that *Grammomys discolor*, previously considered to be almost exclusively a field rat, is a not uncommon inhabitant of thatched roofs in some areas.

Mosquitoes.

Larvicides.—Suggestions have been made on several occasions that "cotton-seed tar" (a by-product of producer-gas engine plants using cotton-seed as a source of gas) might be used in place of more expensive larvicides. Attempts to employ the "tar" had always failed, chiefly owing to clogging of the pumps. Experiments have been carried out with a view to overcoming this difficulty. It has been found that the "tar" readily mixes with kerosene, that a mixture of one volume kerosene to three volumes of "tar" (after straining through mosquito-gauze) will pass freely through a "four oaks" sprayer without choking the jets, and that this mixture, when sprayed on the water, spreads evenly without forming globules. A number of experiments were next carried out in three shallow cement pits, each approximately fourteen square feet of water surface, one pit being sprayed with the "cotton-seed tar" kerosene mixture, one with the anti-malarial oil at present used, the third being employed as a control; each spray was used at the rate of three quarter of a fluid ounce per pit. Similar numbers of anopheline larvae (*A. gambiae*) were introduced into each pit at the beginning of each experiment and counted at the end of one hour after spraying and again after two to three hours. A series of four tests was made. None of the controls died, but of 135 larvae in the pit sprayed with the "tar" mixture only one survived at the second count (this larva was still alive next morning), while of 125 in the pit treated with the oil one also survived at the second count (but was dead next morning). A small number of culicine larvae were also employed and were all killed by each larvicide by the time of the second count. In all experiments with both substances some of the larvae were still alive at the first count (after one hour).

The experiments show no significant difference in favour of either spray. "Cotton-seed tar" is available locally in considerable quantities and the output could easily be increased if necessary. Since it is a by-product the price is low, and the cost per gallon of the kerosene "tar" mixture is approximately half the local cost of the anti-malarial oil.

Experiments were also carried out with a proprietary larvicide (apparently a cresol-soap emulsion). In somewhat more than the recommended dosage (a quarter of a fluid ounce for an area of approximately one-and-a-half square yards) this proved ineffective, no larvae being killed within three hours and comparatively few within twenty-four hours. When applied from a sprayer, at the same rate as the "cotton-seed tar" kerosene mixture and the anti-malarial oil, and also at the rate of half a fluid ounce for the same area, all larvae were killed within three hours.

"Heglik" berries (fruit of *Balanites aegyptiaca*). (*See* section Control of Helminths).

Prickly-pear (Opuntia). A request was received to test under Uganda conditions the application of the mucilaginous infusion of prickly-pear leaves to waters for control of mosquito larvae, a method which had proved effective in Algeria.

It was found that the lethal effect was of a mechanical nature: that the infusion without the mucilage was ineffective. In view of the comparative rarity of this plant in Uganda and of the results obtained from application of grass to breeding waters (*see* Annual Report of the Medical Department, Uganda, 1932, p. 88), the use of prickly-pear cannot be advocated where a plentiful supply of grass or similar herbaceous material is available.

Mosquito Gauze and Netting.—The standards for gauze and netting at present in use in the Protectorate are—

(*a*) wire gauze (brass) for houses in Entebbe, 16 by 16 mesh, 30 S.W.G. (256 holes per square inch, thickness of strands 0·0124 inch);

(*b*) wire gauze for houses at all other stations, 14 by 14 mesh, 30 S.W.G. (196 holes per square inch);

(*c*) cotton mosquito-nets (throughout) 25/26 mesh (trade count), woven of 30 or 40/60 counts cotton.

Wire gauze (*a*) is stated to exclude about 40 per cent. of light and air, and (*b*) about 35 per cent.

There have been some misgivings as to whether mosquito-netting (*c*) recently introduced to supersede a netting of considerably smaller mesh would suffice to exclude our smallest dangerous mosquito, *Anopheles funestus*, and suggestions have been made that the nets should be washed before use, so as to lessen slightly the size of the holes. Tests were, therefore, carried out to decide this question.

The experiments were conducted with bred adult females of *A. funestus*, the intention being that they should be definitely hungry (and therefore desirous of passing through the netting in order to obtain food) and that their bodies should be at minimum size. In all cases they failed to pass through cages constructed of the wider mesh wire gauze mentioned above as (*b*) or of a 27/28 mesh (trade count) locally purchased cotton netting.

Other *funestus* were enclosed in tubes, the mouths of which were attached to the tightly-stretched, but not distorted netting of occupied beds. In these circumstances, also, the mosquitoes failed to pass through either the locally purchased netting or (*c*) that supplied by the Public Works Department, although in both cases the netting was used in an unwashed (and therefore unshrunk) condition. It appears that the length of the legs, and not the size of the body, prevents mosquitoes penetrating small holes.

These results were supported by observations made by the Government Entomologist during a three-nights' stay in the Bwamba Valley where, in spite of the moderate abundance of *A. funestus*, no mosquitoes penetrated his unwashed net of mesh (*c*).

The conclusions reached are that no danger from mosquitoes attends the use of the wider-meshed cotton netting recently introduced, even if new and used without prior washing, and that there is no reason (so far as malaria is concerned) why the wider meshed gauze-wire (*b*) should not be used throughout the Protectorate. Its advantages are that it is cheaper and that it excludes less air and so makes life in hot weather less unpleasant.

With regard to bed-nets it is important to note that where anophelines are numerous it is often practically impossible to get into bed without being accompanied by several mosquitoes. This factor, as well as the question of torn or incorrectly-arranged nets, should always be taken into account when considering the presence of mosquitoes in bed-nets.

Mosquito Surveys.—The survey (both dry and wet conditions) of the environs of the proposed new site for police lines, below Nsambya and on the outskirts of Kampala, was completed and a report submitted. The area was probably responsible for a considerable proportion of the anopheline population of the bazaar area of Kampala township. The breeding-places were all small and recommendations for their elimination have been submitted. The depressions around mounds on which sweet potatoes were grown on low-lying ground proved an important source of dangerous species of anophelines during wet weather; other important sources were sand-and-clay pits, ditches and native "wells." Cattle hoof-prints were (as always) responsible for a considerable number of anophelines.

A survey of a proposed new district headquarters was carried out during September (wet conditions) at Kakumiro and a special report submitted. The results showed that the site, from this aspect, was satisfactory: few breeding places of any mosquito species existed and all these of a type which could easily be dealt with.

The Government Plantation, Kampala, was accused of being the main source of the anopheline fauna on the north-eastern side of Nakasero Hill, and a further survey of this area was undertaken to determine the facts. Breeding of *Anopheles* was found to occur on a very limited scale only. The survey results will be utilised as a basis for the scheme for drainage shortly to be considered for the low-lying area along that part of the Kitante river valley.

Training of African Personnel.—Two further batches, totalling eighteen, were trained as mosquito searchers for duty in the Medical Department.

At the request of the Railway Engineer-in-charge, Jinja, one African of his selection was given a short course of training sufficient to enable him to determine mosquito breeding places on railway station property.

Control of Parasitic Helminths.

An infusion of the fruits of *Balanites aegyptiaca* ("heglik" berries) has been recommended elsewhere for the control of the aquatic hosts of guinea-worm and bilharzia. Further tests under Uganda conditions were requested; these were undertaken, the method of preparation employed being that given in the Annual Report of the Medical Department, 1934, p. 33.

Unfortunately, owing to the illness of the Entomologist and to pressure of other work, it was not possible to test the "heglik" berries until some months after they were received, by which time they had become dry and may have lost some of their lethal properties.

The results are summarised below:—

(i) "Heglik" material at recommended strength proved ineffective against *A. gambiae* larvae in rain water in open concrete pits.

(ii) With six times this strength tested against *A. gambiae* larvae and pupae under the same conditions, all except one pupa were still alive after twenty-four hours. Testing this strength a second time, only one larva of 35 survived after twenty-four hours. A third test of the same strength with 117 *gambiae* larvae showed two larvae alive after twenty-four hours and these survived for four days after which the pit was cleaned out. The conditions in the next two experiments were also similar.

(iii) With twelve times the stipulated strength and rain water containing snails and *A. gambiae* larvae, all the mosquitoes were dead but all snails alive after twenty-four hours.

(iv) With "heglik" fifteen times standard strength, both mosquito larvae and snails died within twenty-four hours.

(v) Using swamp water, a further series of tests in small jars were made against snails, *Cyclops*, tadpoles, mosquito larvae and various insects (including may-fly larvae, *Anisops* bugs and beetles) which occurred in the water. "Heglik" berries were added without previous maceration in numbers equivalent to fourteen times standard strength. After twenty-four hours all the various animals were still alive, but after forty-eight hours all except *Culex* and may-fly larvae were dead. A repetition of this test resulted in death of all the animals within forty-eight hours, the controls remaining alive.

(vi) With larger glass containers (three and three-quarter gallons) and twice standard strength unmacerated "heglik", after four days tadpoles and *Anisops* bugs only were dead, the other animals surviving.

(vii) A test as in (vi), but with four times standard amount "heglik" resulted in death within forty-eight hours of all the animals except *Anisops* bugs and may-fly larvae.

(viii) In open test pits, with thirty gallons of water and "heglik" berries as in (vii), but without mosquito larvae, the following results were obtained. After twenty-four hours tadpoles only were dead and four *Culex* egg rafts were found on the water; after forty-eight hours all *Cyclops* and all excepting one snail were dead; after seventy-two hours all the animals under test were dead but the *Culex* eggs had hatched and the larvae were alive. Five snails and some tadpoles were then added to determine whether the toxic property persisted; these and the *Culex* larvae were still alive after a further seventy-two hours thus indicating that the toxicity is of short duration—under three days.

(ix) *Conclusions.*—The experiments with the "heglik" berries (which, it should be noted, had become dry by the time the tests could be undertaken) showed that in shallow open pits as much as fifteen times standard strength decoction was necessary to kill *A. gambiae* larvae and snails within twenty-four hours.

The results obtained from Nos. (vii) and (viii), indicate that the toxicity may be considerably higher than the tests in general suggest. There appears also to be a wide variation in toxicity of the berries as well as some variation in individual resistance of animals.

Similar results were obtained with whole berries but in this case the lethal action was delayed for twenty-four hours, up to forty-eight hours being required to ensure death of snails, *Cyclops* and mosquito larvae. This simpler method appears to be the only one which natives might be induced to undertake.

It is desirable to make further tests of the material, using berries as fresh as possible.

Tsetse Flies.

A *Glossina* survey of the proposed route of the new road, extending over 40 miles, from Fort Portal to Bundibugyo in Bwamba was carried out during September—October under dry-season conditions. A special report was submitted. *G. palpalis* was found at several places but only in the forest section. In view of the effect of weather on dispersal of fly and of the serious importance of the connection by the road with a sleeping sickness infected area, it was proposed that a further survey under wet season conditions should be carried out. This could not be undertaken during 1935.

Owing to the absence of Mr. C. W. Chorley, Sleeping Sickness Inspector, it was arranged that the Entomological section should supervise, as far as possible, the attention of his native staff to his *palpalis* pupa shelter traps along the shore of Lake Victoria. Two visits only, each extending over two days, were found possible.

No research work on *Glossina* could be attempted.

Welfare Exhibition.

In connection with the Native Welfare Exhibition held near Mbale in November, a considerable amount of time was occupied with the preparation of exhibits, leaflets and posters for the entomological stand, and with other details which concerned the exhibition. The arrangements were rendered more difficult by the distance from Kampala to the site of the exhibition; the Laboratory Assistant, who was almost solely responsible for preparing and setting up the exhibits, had to spend a whole month in the vicinity of the site. In all, some twenty natives were given a short training and employed in relays as demonstrators for the four groups of exhibits, the section's staff being supplemented by assistants from the Medical Department and the Sleeping Sickness Inspector.

The entomological exhibits, particularly those relating to plague, proved extremely attractive to native visitors, so much so that very few non-natives ventured to view the exhibits before two o'clock each day.

Spirillum Tick.

Further tests (*see* Anuual Report 1934, p. 66) against *Ornithodorus* with the spray, consisting of a solution of one-and-a-half pounds of paradichlorbenzene in one gallon of kerosene, were carried out, the final test being undertaken by the District Medical Officer, Masaka, a large dilapidated prison building being treated. The results though extremely promising were not absolutely conclusive, partly owing to the impossibility of careful supervision and partly to the suspected complication of some re-infestation by new prisoners. It is proposed to make additional tests when the necessary precautions can be assured.

Laboratory tests were also carried out with a mixture (or solution) of orthodichlorbenzene and kerosene submitted by the Medical Department for experiment. This spray proved comparable in effect to that mentioned above.

Miscellaneous.

The following material was received for identification or advice: mosquitoes from several out-stations; *Ornithodorus moubata* from gaol in Bulemezi; *Auchmeromyia luteola*, Fab. (Congo floor maggot); Cordylobia *ex* man; Calliphorine maggots *ex* festering orbit of man.

One paper was published: "Some observations on the Bionomics of Fleas in East Africa", G. H. E. Hopkins, *Parasitology*, Vol. XXVII, 1935.

Table I.

SANCTIONED ESTABLISHMENT, 1935.

The establishment for 1935 was as follows:—

ADMINISTRATIVE DIVISION.

Director of Medical Services.
Deputy Director of Medical Services.
Assistant Director of Medical Services.
Office Superintendent.
Lady Stenographer and Confidential Secretary.
European Storekeeper and Pharmacist.
Asiatic Assistant Storekeeper.
11 Asiatic Clerks.

EXECUTIVE DIVISION.

5 Senior Medical Officers.
30 Medical Officers.
2 European Hospital Superintendents.
3 European Assistant Superintendents and Dispensers.
14 European Sanitary Inspectors.
1 Asiatic Civil Surgeon.
1 Instructor of Hygiene.
2 Senior Sub-Assistant Surgeons.
14 Sub-Assistant Surgeons.
1 Asiatic Assistant Pharmacist.
2 Asiatic Sanitary Inspectors.
2 Asiatic Cooks for European and Asiatic Hospitals.

NURSING STAFF.

2 Senior Nursing Sisters.
1 Lady Steward.
25 Nursing Sisters.
4 Asiatic Nurses and Probationers.

LABORATORIES DIVISION.

1 Senior Bacteriologist.
2 Assistant Bacteriologists.
1 Analytical Chemist.
2 European Laboratory Assistants.

SPECIAL APPOINTMENTS.

1 Medical Superintendent and Principal, Medical School.
1 Junior Surgical Specialist.
1 Dental Surgeon.

AFRICAN ESTABLISHMENT.

1 African Laboratory Assistant.
23 Senior African Medical Assistants (African Civil Service).
4 African Clerks (African Civil Service).

A varying number of African staff, including Nursing orderlies, laboratory orderlies, health orderlies, midwives, dispensers, clerks, cooks, dhobis, nurses, and also menial staff at all hospitals.

Table II.

Actual Expenditure for the year:—

	£	shs.	cts.
Personal Emoluments	91,007	14	57
Other Charges:—			
Stores, furniture and equipment	22,884	14	64
Upkeep of hospitals, lunatic asylums and Medical School	7,507	3	74
Control of epidemic and endemic diseases	5,137	9	94
Promotion of Public Health and infant welfare	608	6	58
Leprosy relief measures	1,457	18	77
Miscellaneous services (including motor and bicycle allowances, local travelling and transport, travelling allowances, maintenance of motor vehicles, water charges, telephone rentals, upkeep of hospital grounds, courses of instruction to medical staff, uniforms for African staff, etc.	15,090	9	73
	£143,693	17	97
Grants to Missions:—			
Contribution to Lady Coryndon Maternity School and grants to Missions for maintenance of midwifery centres and midwives	2,260	0	00
Grants to Church Missionary Society for native training	1,000	0	00
Medical grants to mission hospitals	—	—	—
	£3,260	0	00
Special Expenditure:—			
Motor vans for sanitary inspectors	610	11	48
Anti-malarial measures—afforestation	1,342	12	75
	£1,953	4	23

Revenue.

The total amount of revenue collected as hospital fees, sales of medicines and surgical stores, registration fees and re-imbursements on account of medical services was as follows:—

	£	shs.	cts.
Hospital fees, sales of medicines and surgical stores, registration fees	10,810	12	25
Reimbursements from Kenya and Uganda Railways and Harbours on account of medical and sanitary services	1,131	1	23
Contribution from Lukikos towards cost of medical stores for sub-dispensaries	6,224	0	00
	£18,165	13	48

Table III.

Return of Statistics of Population.

The only statistics available are embodied in the Blue Book.

Table IV.

Meteorological Return.

All available information under this head is embodied in the Blue Book.

Tables V and VI.

Return of Diseases and Deaths for the Year 1935.

DISEASES.	Table V.					Table VI.
	Remaining in Hospital at end of 1934.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1935.	All Cases including both In- and Out-Patients.
I Epidemic, Endemic, and Infectious Diseases.						
1. Enteric Group—						
(*a*) Typhoid Fever	2	36	38	13	6	40
(*b*) Paratyphoid A	...	...	...	...	...	...
(*c*) Paratyphoid B	...	5	5	...	...	5
(*d*) Type not defined	...	4	4	...	...	6
2. Typhus	1	3	4	1	...	7
3. Relapsing Fever	9	346	355	22	7	656
4. Undulant Fever	...	1	1	...	...	1
5. Malaria—						
(*a*) Tertian	6	231	237	...	4	1,228
(*b*) Quartan	6	285	291	4	5	1,571
(*c*) Æstivo-autumnal	22	1,935	1,957	73	45	7,975
(*d*) Clinical	28	1,395	1,423	35	20	51,330
(*e*) Mixed Infections	3	58	61	3	1	405
(*f*) Cachexia	...	6	6	1	...	72
(*g*) Blackwater	2	34	36	8	...	66
6. Smallpox	...	2	2	1	...	2
Alastrim	...	...	...	...	...	...
7. Measles	...	29	29	...	...	270
8. Scarlet Fever	...	1	1	1	...	1
9. Whooping Cough	4	110	114	8	...	3,155
10. Diphtheria	...	1	1	...	...	2
11. Influenza	25	748	773	7	8	16,406
12. Miliary Fever	...	...	...	...	...	2
13. Mumps	6	76	82	...	...	1,829
14. Cholera	...	...	...	...	...	...
15. Epidemic Diarrhœa	...	17	17	1	...	20
16. Dysentery—						
(*a*) Amœbic	4	379	383	16	6	1,407
(*b*) Bacillary	2	262	264	21	1	578
(*c*) Undefined or due to other causes	1	185	186	11	1	2,449
17. Plague—						
(*a*) Bubonic	...	29	29	23	...	45
(*b*) Pneumonic	...	16	16	16	...	19
(*c*) Septicæmic	...	2	2	2	...	2
(*d*) Undefined	...	...	...	...	...	14
18. Yellow Fever	...	...	...	...	...	...
19. Spirochætosis ictero-hæmorrhagica	...	...	...	...	...	...
20. Leprosy	5	45	50	3	3	1,445
21. Erysipelas	...	9	9	4	...	18
22. Acute Poliomyelitis	2	5	7	...	...	6
23. Encephalitis Lethargica	...	3	3	...	...	4
24. Epidemic Cerebro-Spinal Fever	1	144	145	76	7	364
25. Other Epidemic Diseases—						
(*a*) Rubeola (German Measles)	...	...	...	...	...	8
(*b*) Varicella (Chicken-pox)	8	274	282	...	7	629
(*c*) Kala-azar	...	...	...	...	...	...
(*d*) Phlebotomus Fever	...	...	...	...	...	...
(*e*) Dengue	...	1	1	...	...	1
(*f*) Epidemic Dropsy	...	...	...	...	...	...
(*g*) Yaws	102	1,227	1,329	14	46	64,715
(*h*) Trypanosomiasis	14	226	240	19	24	768
(*i*) P.U.O.	4	41	45	6	3	1,170
26. Glanders	...	...	...	...	...	...
27. Anthrax	...	4	4	...	...	26
28. Rabies	...	...	...	...	...	...
29. Tetanus	2	3	5	3	...	3
30. Mycosis	...	...	...	...	...	1
31. Tuberculosis, Pulmonary and Laryngeal	22	212	234	52	12	737
32. Tuberculosis of the Meninges or Central Nervous System	...	2	2	1	...	2
33. Tuberculosis of the Intestines or Peritoneum	...	6	6	4	...	6
34. Tuberculosis of the Vertebral Column	2	16	18	3	1	31
35. Tuberculosis of Bones and Joints	2	16	18	1	1	23
36. Tuberculosis of other organs—						
(*a*) Skin or Subcutaneous Tissue (Lupus)	...	1	1	...	...	9
(*b*) Bones	...	...	...	...	...	4
(*c*) Lymphatic System	1	5	6	...	...	12
(*d*) Genito-urinary	...	...	...	...	...	...
(*e*) Other organs	...	2	2	...	...	2
37. Tuberculosis disseminated—						
(*a*) Acute	...	...	...	...	...	...
(*b*) Chronic	...	1	1	1	...	1
38. Syphilis—						
(*a*) Primary	16	416	432	...	26	7,929
(*b*) Secondary	15	494	509	1	20	16,177
(*c*) Tertiary	26	572	598	13	29	35,458
(*d*) Hereditary	2	184	186	29	6	11,935
(*e*) Period not indicated	...	4	4	...	...	85
(*f*) Latent	...	13	13	...	...	777
39. Soft Chancre	19	175	194	...	5	1,258

TABLES V AND VI—*contd.*

DISEASES.	TABLE V.					TABLE VI.
	Remaining in Hospital at end of 1934.	Yearly Admissions	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1935.	All Cases including both In- and Out-Patients.
I. EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.—*contd.*						
40. A.—Gonorrhœa and its complications	17	729	746	12	33	11,167
B.—Stricture	4	140	144	6	7	306
C.—Stricture and Extravasation	5	65	70	15	4	85
D.—Gonorrhœal Ophthalmia	2	14	16	...	...	24
E.—Gonorrhœal Arthritis	7	53	60	...	2	99
F.—Salpingitis, etc.	5	78	83	...	2	148
G.—Granuloma Venereum	1	14	15	...	2	20
41. Septicæmia	...	22	22	12	3	23
42. Other Infectious Diseases	...	5	5	1	...	41
II. GENERAL DISEASES NOT MENTIONED ABOVE.						
43. Cancer or other malignant Tumours of the Buccal Cavity	...	7	7	...	...	7
44. Cancer or other malignant Tumours of the Stomach or Liver	...	8	8	5	1	10
45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum	...	9	9	5	1	9
46. Cancer or other malignant Tumours of the Female Genital Organs	2	10	12	3	...	30
47. Cancer or other malignant Tumours of the Breast	...	4	4	...	...	6
48. Cancer or other malignant Tumours of the Skin ...	3	8	11	3	...	10
49. Cancer or other malignant Tumours of organs not specified	1	37	38	10	2	46
50. Tumours non-malignant	2	113	115	3	5	385
51. Acute Rheumatism	3	30	33	1	...	249
52. Chronic Rheumatism	2	93	95	1	5	7,996
52A. Myalgia	6	302	308	...	7	46,883
53. Scurvy (including Barlow's Disease)	...	19	19	1	...	226
54. Pellagra	...	2	2	...	...	2
55. Beri-Beri	...	...	...	...	...	1
56. Rickets	...	...	...	...	...	4
57. Diabetes (not including Insipidus)	2	11	13	5	...	18
58. Anæmia—						
(*a*) Pernicious	...	30	30	9	2	104
(*b*) Other Anæmias and Chlorosis	3	63	66	9	4	580
59. Diseases of the Pituitary Body	...	...	...	...	...	...
60. Diseases of the Thyroid Gland—						
(*a*) Exophthalmic Goitre	...	1	1	...	...	8
(*b*) Other diseases of the Thyroid gland, Myxœdema	...	3	3	...	...	6
(*c*) Others	...	2	2	...	...	8
61. Diseases of the Para-Thyroid Glands	...	3	3	...	...	3
62. Diseases of the Thymus	...	...	...	...	...	...
63. Diseases of the Supra-Renal Glands	...	...	...	...	...	...
64. Diseases of the Spleen	1	42	43	3	...	2,595
65. Leukæmia—						
(*a*) Leukæmia	...	1	1	...	..	1
(*b*) Hodgkin's Disease	...	5	5	3	1	5
66. Alcoholism	...	4	4	...	...	16
67. Chronic poisoning by mineral substances (leads, mercury, etc.)	...	3	3	...	...	3
68. Chronic poisoning by organic substances (morphia, cocaine, etc.)	...	...	..	...	...	...
69. Other general diseases—						
Auto-intoxication	...	2	2	1	...	2
Purpura Hæmorrhagica	...	...	..	...	...	...
Hæmophilia	...	...	...	...	...	1
Diabetes Insipidus	...	1	1	1	...	2
Others	...	25	25	...	...	1,837
III. AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.						
70. Encephalitis (not including Encephalitis Lethargica)	...	6	6	2	...	6
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	1	33	34	22	1	34
72. Locomotor Ataxia	...	...	...	...	...	...
73. Other affections of the Spinal Cord	1	4	5	...	...	41
74. Apoplexy—						
(*a*) Hæmorrhage	...	7	7	3	...	10
(*b*) Embolism	1	...	1	...	...	...
(*c*) Thrombosis	2	21	23	9	...	23
75. Paralysis—						
(*a*) Hemiplegia	3	54	57	5	3	104
(*b*) Other Paralyses	3	51	54	9	2	135
76. General Paralysis of the Insane	...	3	3	1	...	4
77. Other forms of Mental Alienation	3	67	70	11	5	100
78. Epilepsy	5	50	55	3	1	185
79. Eclampsia Convulsions (non-puerperal) 5 years or over	...	...	...	...	...	...
80. Infantile Convulsions	...	1	1	...	...	5

TABLES V AND VI.—*contd.*

DISEASES.	TABLE V.					TABLE VI.
	Remaining in Hospital at end of 1934.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1935.	All Cases including both In- and Out-Patients.
III. AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES—*continued.*						
81. Chorea	...	5	5	...	...	5
82. A.—Hysteria	...	6	6	...	...	21
B.—Neuritis	...	13	13	...	...	174
C.—Neurasthenia	...	4	4	...	...	17
83. Cerebral Softening	...	4	4	2	...	4
84. Other affections of the Nervous System, such as Paralysis Agitans, Headache, Neuralgia, Insomnia, etc.	4	89	93	2	1	16,543
85. Affections of the Organs of Vision—						
(*a*) Conjunctivitis	4	158	162	...	5	30,083
(*b*) Trachoma	4	113	117	...	...	5,970
(*c*) Tumours of the Eye	3	5	8	...	...	34
(*d*) Iritis	1	23	24	...	...	761
(*e*) Other affections of the Eye	8	137	145	2	1	2,835
86. Affections of the Ear or Mastoid Sinus—						
(*a*) Otitis Media	6	101	107	...	4	8,146
(*b*) Others	2	37	39	...	2	5,075
IV. AFFECTIONS OF THE CIRCULATORY SYSTEM.						
87. Pericarditis	...	1	1	1	...	8
88. Acute Endocarditis	2	7	9	6	2	7
89. Angina Pectoris	...	1	1	...	...	8
90. Other Diseases of the Heart—						
(*a*) Valvular—						
Mitral	4	52	56	13	2	144
Aortic	...	19	19	9	...	84
Tricuspid	...	...	...	...	...	...
Pulmonary	...	...	...	...	...	...
Mixed or unspecified	...	26	26	1	2	157
(*b*) Myocarditis	...	...	...	...	...	40
D.A.H.	1	30	31	7	2	507
Others	3	47	50	10	2	263
91. Diseases of the Arteries—						
(*a*) Aneurism	1	5	6	1	...	9
(*b*) Arterio-Sclerosis	...	...	...	...	...	9
(*c*) Other diseases	...	2	2	1	...	4
92. Embolism or Thrombosis (non-cerebral)	...	3	3	1	...	4
93. Diseases of the Veins—						
Hæmorrhoids	2	31	33	...	...	152
Varicose Veins	...	5	5	...	...	28
Phlebitis	...	3	3	...	...	14
94. Diseases of the Lymphatic System—						
Lymphangitis	...	6	6	...	1	101
Lymphadenitis, Bubo (non-specific)	11	243	254	1	5	3,422
Others	...	4	4	...	...	103
95. Hæmorrhage of undetermined cause	...	15	15	4	1	28
96. Other affections of the Circulatory System	...	8	8	2	...	35
V. AFFECTIONS OF THE RESPIRATORY SYSTEM.						
97. Diseases of the Nasal Passages and accessory sinuses—						
Adenoids	...	8	8	...	...	90
Polypus	...	5	5	...	...	12
Rhinitis	1	4	5	...	...	460
Coryza	3	107	110	...	1	19,248
Others	...	32	32	...	1	2,991
98. Affections of the Larynx—						
Laryngitis	...	27	27	...	...	990
Tracheitis	3	7	10	1	2	16,398
99. Bronchitis—						
(*a*) Acute	2	228	230	9	7	19,812
(*b*) Chronic	5	231	236	1	4	30,535
100. Broncho-Pneumonia	6	370	376	73	4	674
101. Pneumonia—						
(*a*) Lobar	26	877	903	226	23	1,162
(*b*) Unclassified	3	238	241	47	8	1,510
102. Pleurisy	1	137	138	9	3	1,191
102A. Empyema	...	9	9	1	...	15
103. Congestion of the Lungs	...	...	...	...	...	...
104. Gangrene of the Lungs	...	...	...	...	...	1
105. Asthma	3	48	51	1	...	858
106. Pulmonary Emphysema	...	1	1	...	...	8
107. Other affections of the Lungs—						
Pulmonary Spirochætosis	...	...	...	...	...	...
Others	1	20	21	3	3	3,426
VI. DISEASES OF THE DIGESTIVE SYSTEM.						
108. A.—Diseases of the Teeth or Gums—						
Caries	...	33	33	...	...	6,008
Pyorrhœa	...	13	13	...	...	1,482
Others	...	15	15	...	...	772

Tables V and VI.—*contd.*

DISEASES.	Table V.					Table VI.
	Remaining in Hospital at end of 1934.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1935.	All Cases including both In- and Out-Patients.
VI. Diseases of the Digestive System—*continued.*						
B.—Other affections of the Mouth—						
Stomatitis	2	66	68	2	...	7,805
Glossitis	...	6	6	1	...	65
Others	...	8	8	1	1	505
109. Affections of the Pharynx or Tonsils—						
Tonsilitis	3	136	139	3	1	2,644
Pharyngitis	...	37	37	1	1	2,149
Others	...	18	18	...	...	771
110. Affections of the Œsophagus	...	2	2	...	...	2
111. A.—Ulcer of the Stomach	...	1	1	...	...	3
B.—Ulcer of the Duodenum	1	4	5	...	1	5
112. Other affections of the Stomach—						
Gastritis	1	56	57	1	3	1,032
Dyspepsia	2	105	107	...	1	13,939
Others	...	22	22	2	...	2,597
113. Diarrhœa and Enteritis—						
Under two years of age	...	63	63	5	2	4,652
114. Diarrhœa and Enteritis—						
Two years of age and over	3	202	205	9	5	12,562
Colitis	1	59	60	...	...	1,031
Ulceration	...	...	...	...	...	4
114a. Sprue	...	1	1	...	...	1
115. Ankylostomiasis	17	547	564	10	12	2,274
116. Diseases due to Intestinal Parasites—						
(*a*) Cestoda (Taenia)	1	66	67	...	2	3,278
(*b*) Trematoda (Flukes)	...	1	1	..	...	1
(*c*) Bilharzia	1	36	37	...	...	124
(*d*) Nematoda (other than Ankylostoma)—						
Ascaris	2	116	18	1	1	1,567
Trichocephalus dispar.	...	...	.	...	...	...
Trichina	...	1	1	...	...	67
Dracunculus	4	139	143	1	3	2,056
Strongylus	...	...	...	...	...	2
Oxyuris	...	...	...	...	...	4
(*e*) Coccidia	...	...	...	...	...	...
(*f*) Other parasites	1	9	10	...	...	20
(*g*) Unclassified	...	4	4	...	...	8
117. Appendicitis	...	18	18	...	...	38
118. Hernia	22	535	557	47	20	1,093
119. A.—Affections of the Anus and Rectum—						
Fistula	1	18	19	1	...	36
Others	1	44	45	8	2	146
B.—Other affections of the Intestines—						
Enteroptosis	...	3	3	3	...	5
Constipation	2	124	126	3	1	29,839
Others	...	12	12	4	1	165
120. Acute Yellow Atrophy of the Liver	...	...	...	...	...	...
121. Hydatid of the Liver	...	...	...	...	...	...
122. Cirrhosis of the Liver—			...	...	...	...
(*a*) Alcoholic	3	22	25	9	2	25
(*b*) Other forms	2	11	13	4	...	20
123. Biliary Calculus	...	...	...	...	...	...
124. Other affections of the Liver—						
Abscess	...	11	11	1	1	11
Hepatitis	...	24	24	1	1	116
Cholecystitis	...	...	...	...	...	4
Jaundice	1	67	68	5	2	628
Others	...	7	7	2	...	12
125. Diseases of the Pancreas	...	...	...	...	...	...
126. Peritonitis (of unknown cause)	...	23	23	9	5	27
127. Other affections of the Digestive System	1	48	49	5	2	6,875
VII. Diseases of the Genito-Urinary System (non-Venereal).						
128. Acute Nephritis	1	43	44	10	...	98
129. Chronic Nephritis	5	53	58	20	3	76
130. A.—Chyluria	...	4	4	...	...	4
B.—Schistosomiasis	2	20	22	...	...	37
131. Other affections of the Kidneys and Ureters—						
Pyelitis	...	23	23	...	...	36
Others	...	19	19	3	...	32
132. Urinary Calculus	...	3	3	...	...	3
133. Diseases of the Bladder—						
Cystitis	3	44	47	...	1	233
Others	9	17	26	...	...	46
134. Diseases of the Urethra—						
(*a*) Stricture	...	14	14	1	...	20
(*b*) Others	...	10	10	1	...	26
135. Diseases of the Prostate—						
Hypertrophy	...	2	2	...	...	2
Prostatitis	...	3	3	...	...	25

TABLES V AND VI.—*contd.*

DISEASES.	TABLE V.					TABLE VI.
	Remaining in Hospital at end of 1934.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1935.	All Cases including both In- and Out-Patients.
VII. DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)—*continued.*						
136. Diseases (non-Venereal) of the Genital Organs of Man—						
Epididymitis	1	58	59	...	...	139
Orchitis	2	81	83	...	...	759
Hydrocele	2	93	95	...	8	316
Ulcer of Penis	1	18	19	1	3	130
Varicocele	...	2	2	...	...	6
Others	4	119	123	1	4	339
137. Cysts or other non-malignant Tumours of the Ovaries	...	16	16	1	...	26
138. Salpingitis :—						
Abscess of the Pelvis	...	20	20	...	...	32
139. Uterine Tumours (non-malignant)	3	33	36	...	1	45
140. Uterine Hæmorrhage (non-puerperal)	...	6	6	2	...	12
141. A.—Metritis	1	21	22	1	...	43
B.—Other affections of the Female Genital Organs—						
Displacement of Uterus	...	22	22	1	1	67
Amenorrhœa	...	4	4	1	...	127
Dysmenorrhœa	...	14	14	...	...	323
Leucorrhœa	...	4	4	...	...	83
Others	5	52	57	...	2	209
142. Diseases of the Breast (non-puerperal)—						
Mastitis	1	32	33	...	1	628
Abscess of Breast	1	9	10	...	2	138
Others	...	4	4	...	...	42
VIII. PUERPERAL STATE.						
143. A.—Normal Labour	14	1,333	1,347	3	17	1,743
B.—Accidents of Pregnancy—						
(*a*) Abortion or Miscarriage	8	260	268	7	9	526
(*b*) Ectopic Gestation	1	6	7	...	...	7
(*c*) Other accidents of Pregnancy	1	410	411	16	1	449
C.—Ante-natal supervision	15	517	532	...	4	18,864
144. Puerperal Hæmorrhage	...	2	2	...	...	5
145. Other accidents of Parturition	3	149	152	26	2	160
146. Puerperal Septicæmia	...	18	18	6	1	21
147. Phlegmasia Dolens	...	...	...	...	...	...
148. Puerperal Eclampsia	...	4	4	2	...	4
149. Sequelæ of Labour	...	42	42	18	3	42
150. Puerperal affections of the Breast	...	...	...	...	...	19
IX. AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.						
151. Gangrene	...	17	17	6	2	24
152. Boil	...	71	71	1	...	5,630
Carbuncle	...	12	12	...	...	60
153. Abscess	30	779	809	23	23	8,811
Whitlow and Onychia	3	93	96	...	4	3,770
Cellulitis	3	337	340	7	8	7,001
154. A.—Tinea	..	20	20	...	...	1,904
B.—Scabies	1	133	134	...	2	38,642
155. Other Diseases of the Skin—						
Erythema	...	...	...	...	...	113
Urticaria	...	17	17	...	...	649
Eczema	3	36	39	...	...	1,470
Herpes	...	11	11	...	...	363
Psoriasis	...	1	1	...	...	43
Elephantiasis	6	77	83	1	7	768
Myiasis	...	2	2	...	...	27
Chigoes	6	29	35	...	3	690
Cutaneous Leishmaniasis	...	...	...	...	...	2
Ulcers	157	2,053	2,210	19	163	49,861
Others	6	134	140	5	17	6,102
X. DISEASES OF THE BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS)—						
156. Diseases of the Bones—						
Osteitis	3	26	29	1	2	38
Periostitis	1	17	18	1	2	94
Others	4	26	30	2	2	131
157. Diseases of Joints—						
Arthritis	7	91	98	3	4	1,403
Synovitis	2	89	91	1	3	1,711
Others	...	13	13	...	...	231
158. Other diseases of Bones or Organs of Locomotion—						
(*a*) Teno-synovitis	...	7	7	...	...	43
(*b*) Ganglion	1	4	5	...	...	227
(*c*) Others	...	9	9	1	...	59

Tables V and VI.—*contd.*

DISEASES.	Table V.					Table VI.
	Remaining in Hospital at end of 1934.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1935.	All Cases including both In- and Out-Patients.
XI. Malformations.						
159. Malformations—						
Hydrocephalus	...	4	4	2	...	5
Hypospadias	...	...	...	...	...	...
Spina Bifida	...	...	...	...	...	1
Others	...	5	5	...	1	9
XII. Diseases of Infancy.						
160. Normal living babies	11	1,266	1,277	4	10	1,777
160a. Congenital Debility	2	14	16	5	..	88
161. Premature Birth	2	65	67	32	...	78
162. Other affections of Infancy	...	26	26	11	1	44
162a. Babies still-born	...	...	...	...	...	144
163. Infant neglect (infants of three months or over) ...	...	7	7	4	...	32
163a. Post-natal supervision	...	109	109	...	7	10,653
XIII. Affections of Old Age.						
164. Senility—						
Senile Dementia	..	4	4	2	...	8
XIV. Affections produced by External Causes.						
165. Suicide by Poisoning	...	...	...	...	...	5
166. Corrosive Poisoning (intentional)	...	2	2	2	...	2
167. Suicide by Gas Poisoning	...	...	...	...	...	...
168. Suicide by Hanging or Strangulation	...	...	...	...	...	2
169. Suicide by Drowning	...	...	...	...	...	...
170. Suicide by Firearms	...	...	...	...	...	...
171. Suicide by cutting or stabbing instruments ...	...	2	2	2	...	2
172. Suicide by jumping from a height	...	...	...	...	...	...
173. Suicide by crushing	...	...	...	...	...	...
174. Other suicides	...	...	...	...	...	...
175. Food Poisoning—						
Botulism	...	2	2	...	...	14
176. Attacks of poisonous animals—						
Snake Bite	2	69	71	2	2	311
Insect Bite	...	7	7	1	...	613
177. Other accidental Poisonings	...	2	2	...	...	2
178. Burns (by fire)	30	460	490	52	24	7,370
179. Burns (other than by fire)	2	76	78	5	4	825
180. Suffocation (accidental)	...	...	...	...	...	...
181. Poisoning by Gas (accidental)	...	...	...	...	...	...
182. Drowning (accidental)	...	1	1	...	...	1
183. Wounds (by Firearms, war excepted)	2	6	8	...	...	9
184. Wounds (by cutting or stabbing instruments) ...	36	1,086	1,122	24	34	19,914
185. Wounds (by fall)	7	332	339	2	4	7,661
186. Wounds (in Mines or Quarries)	...	...	...	...	...	10
187. Wounds (by Machinery)	...	30	30	...	...	30
188. Wounds (crushing, *e.g.*, railway accidents, etc.) ...	9	30	39	5	...	108
189. Injuries inflicted by Animals, Bites, Kicks, etc. ...	...	255	255	17	11	2,582
190. Wounds inflicted on Active Service	...	...	...	...	...	...
191. Executions of civilians by belligerents	...	...	...	...	...	...
192. A.—Over fatigue	...	2	2	...	...	3
B.—Hunger or Thirst	1	7	8	1	2	12
193. Exposure to Cold, Frost bite, etc.	...	...	...	...	...	...
194. Exposure to Heat—						
Heatstroke	..	2	2	...	...	3
Sunstroke	...	1	1	...	...	4
195. Lightning Stroke	...	20	20	1	...	31
196. Electric Shock	...	2	2	...	...	2
197. Murder by Firearms	...	...	...	...	...	..
198. Murder by cutting or stabbing instruments ...	...	2	2	1	...	6
199. Murder by other means	...	...	...	...	...	...
200. Infanticide (murder of an infant under one year) ...	...	...	...	...	...	2
201. A.—Dislocation	...	52	52	7	...	295
B.—Sprain	5	113	118	...	2	4,036
C.—Fracture	31	506	537	30	25	1,087
202. Other external Injuries	109	2,278	2,387	26	84	66.742
203. Deaths by Violence of unknown cause	...	...	...	...	...	...
XV. Ill-Defined Diseases.						
204. Sudden Death (cause unknown)	...	2	2	2	...	2
205. A.—Diseases not already specified or ill-defined—						
Ascites	2	48	50	11	2	133
Œdema	1	30	31	2	1	151
Asthenia	...	49	49	11	2	512
Shock	...	2	2	1	...	8
Hyperpyrexia	...	2	2	1	...	6
B.—Malingering	...	4	4	...	...	445
XVI. Diseases, the total of which have not caused 10 deaths, including N.A.D. and N.Y.D. ...	2	179	181	22	15	1.92
Cases not recorded by diseases	...	...	...	...	...	35,510
Total, Sections I to XVI	1,201	33,706	34,907	1,724	1,079	906,486
Examinations	5	99	104	...	9	128.052
GRAND TOTAL	1,206	33,805*	:35,011*	1,724*	1,088	1,034,538

*Does not include still-births.

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